GARDINER TECHNOLOGY

GARDTEC
800 Series

800 816 840

Installation Instructions

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IMPORTANT!

Input:	**AC230V +/-10% ~50Hz 200mA Max. 49W Max**
Nominal Temp Range:	**0 - 50°C**
	Gardtec *800 Series* Metal Versions For Indoor Use Only
	Gardtec *800 Series* Plastic Versions For Indoor Use Only

This equipment is intended only for use as a Security Alarm Control Panel. Adequate ventilation away from heat and humidity must be provided. The unit must be fixed securely to a non-flammable surface using suitable fixings.

All mains wiring must be to BS7671 (1992) IEEE wiring regulations (or appropriate international regulatory standards). See Mains Supply Connection section within this manual for more detailed instructions.

All wiring must be protected from sharp or jagged edges.

All Low voltage (alarm) wiring must be to the appropriate international regulatory standards and comply to good wiring practice.

Replacement fuses should be of the same type and rating conforming to IEC 127.

The maximum current draw from the unit for all output combinations **must not exceed 1Amp.**

The unit is intended for use with a suitable re-chargeable lead acid battery permanently connected to the appropriate terminals.

All documentation and manuals must be thoroughly read by suitably qualified installation personnel prior to installation.

The unit has no user serviceable parts inside. Internal access should only be by suitably qualified personnel.

Gardtec *800 Series* Metal Versions
The unit must be Earthed. It is the responsibility of the installation engineer to ensure that the earth connection to the unit lid is good on completion of the installation or after service.

Gardtec *800 Series* Plastic Versions
Provision is provided for an earth connection within the mains input connector block, this connection is for protection of the wiring only and is not functional for the unit.

1 INTRODUCTION

The Gardtec *800 Series of* control panels consists of two main parts, The master control panel and the keypad(s). The master control panel is a blank end station if the metal version is used or, the keypad may be mounted on board if the polycarbonate version is used with standard type keypads. Various zone wiring modes may be used taking the maximum number of zones available on any one system to 80 zones with 3 areas for the Gardtec *840*, 32 zones for the Gardtec *816* and 16 zones for the Gardtec *800*. Zone expansion is via flexible zone expander cards on all models except the Gardtec *800*.

Ample room is provided within the master control panel housing for all the system wiring, Mains connections, Digicom, Modem or Red-Care communicator (fitting inside the metal version only) and a 7Ah SLA battery.

Uploading/Downloading capabilities are possible on all models within the range through the Gardtec *800 Series* Modem and the Gardtec Remote Software Package for a P.C. Facility is also provided for direct connection to a P.C via the Gardtec *800 Series* Modem Patch Lead.

The capabilities of the Gardtec *800 Series of control panels* are endless and we strongly recommend that all the manuals (both engineer and user) are read and understood before any installation of the system is carried out. You will find that a little time spent now understanding the Gardtec *800 Series* will prove to be a great time saver for the future.

It must be stressed that the Gardtec *840* is one system that is capable of being split into three areas. Under no circumstances should you regard it as three separate systems.

Any references to Area Setting or Area Functions contained in this manual relate to the Gardtec 840 ONLY.

2 SYSTEM OVERVIEW

Codes 800 816 840

The Gardtec *840* is capable of accepting up to 47 user codes (7 for *800/816*) plus 1 engineer code. Each of the user codes is allocated a code type (with the exception of user 1 that is always Master) at the time the code is programmed. Ten code types plus engineer are available, these are:-

Type Number	Code Type (*840*)	Code Type (*800/816*)
0	Set Only	
1	Main	Set Only
2	Area 1 User	Main
3	Master	User
4	Cleaner	Master
5	Area 2 User	Cleaner (816 only)
6	Area 3 User	Duress (816 only)
7	Main Area 1	
8	Main Area 2	
9	Main Area 3	

Note 1: User 1 will always be Master.
Note 2: 800/816 have no area facilities.

A full list of options that are available for the code types are given in the user manual. As a general guide for this section the codes for the Gardtec *840* are split into two groups, Global and Area codes. Codes allocated to these groups are as follows:-

Global Codes (Controlling All Areas). 840

Master
Main
Set Only
Engineer

If any area is set, entering a global code (not Set Only or Cleaner) will unset all areas

If all areas are unset, entering a global code followed by YES (or code then NO YES if Engineer code is used) will give the option to set all areas.

The global codes with the exception of Set Only also have other options. More details of these options are given in the user manual.

Area Codes (Controlling Specific Areas) 840

Cleaner (Area 0)
Area 1
Area 2
Area 3
Main Area 1
Main Area 2
Main Area 3

These area codes will only control their specific areas. Area codes are 'low level codes' and have no user options, they will however allow for the part setting of each area.

Areas 1 to 3 may have up to 3 part sets suites (groups of zones). If part set 1 is used zones programmed into the part 1 suite will be removed (omitted), if part set 2 is used zones programmed into the part 2 suite will be removed and if part set 3 is used zones programmed into both part 1 and part 2 suites will be removed.

It should be noted that the zones programmed into a part set suite are programmed by the engineer and not the user.

To set an area simply enter the required area code (Press YES if a Main Area Code is used) and exit the area.

To part set an area enter the area code followed by NO and the part set number required (1, 2 or 3). If Main Area type code is used enter code followed by part set number.

To unset an area enter the area code.

Cleaner Code (part set 0) 816 840

The Cleaner code or part set 0 acts in a different way to the other area codes. To set the system and remove the cleaner zones start to set the system followed by YES 0 This will set the system or area and remove the cleaner zones.

If a cleaner code is now entered the cleaner zones will also be set.

If a cleaner code is entered when the system is fully set or area set only the cleaner zones will be unset.

It should be noted that any entry/exit zones that are removed or unset via the cleaner code or part set 0 will chime when violated. This is to prevent other users straying into protected areas without warning.

More details of codes and using the system are given in the relevant sections of this manual, and in the user manuals.

Zone Allocation to Areas

840

Whilst within the zone programming section zones may be allocated to areas. This may be one single area or multiple (common) areas.

If a zone is allocated to more than one area it is then a common area zone and the following logic is applied:-

If any area that is assigned to the zone is unset then the zone **is not** active.

If all areas that are assigned to a zone are set then the zone **is** active.

If any area that is assigned to the zone is in exit then the zone is also in exit (zone type will still apply).

If any area that is assigned to the zone is in entry then the zone is also in entry (zone type will still apply).

Zones

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The control panel is supplied with 8 four wire zones (two wires for zone & two wires for tamper).

If required this configuration may be programmed for 16 two wire zones. In this case, two zones should be reserved for global tampers and the remaining 14 zones are then programmable for the desired zone types.

The control panel zones may also be programmed as 16 EOL (End Of Line resistor) zones. This configuration gives the highest possible zone wiring security and a maximum of ten detectors may be wired on to each zone when this option is selected. Resistors required for EOL operation are supplied with the control panel.

When using EOL zones each detector has a 6K8 resistor in parallel with the alarm contacts and there is a 4K7 resistor in series with the two zone wires. This gives both alarm and tamper protection from a single pair of wires. To make full use of this security feature the 4K7 resistor must be fitted to the furthest most point in the loop.

Zone Expansion

816 840

An expansion path is available through zone expander boards. Each expander board being programmable for 4 x four wire zones, 8 x two wire zones or 8x two wire EOL zones. Up to eight expander boards may be fitted to a Gardtec *840* giving a total of eighty zones when configured as 2 wire or 2 wire EOL zones, and up to two expander boards on the *816* giving a maximum of 32 zones. Each expander board and the control panel zones may use differing wiring configurations.

Expander cards may be fitted in locations away from the master control panel.

More details of zone options are given in the relevant sections in this manual.

ID Zone Expansion

840

As an alternative to ZEX expansion up to two ID expander boards may be fitted. Each ID expander board will accept up to 30 standard ID biscuits/devices. ID biscuits may be used with all standard detection devices. This system allows either single leg or ring wiring using standard alarm cable, detectors may, if required be 'teed' of the leg or ring. This expansion method can offer considerable savings of cable and labour

One ID expander card may be plugged on to the control panel PCB (not with onboard RKP) with the other remote. Alternatively both ID expander may be mounted remote from the control panel.

Zone Descriptions

816 840

Up to sixteen characters may be used for zone descriptions on the LCD keypad. The description that you allocate to a zone will also be applied to the tamper of that zone. If the cause of an alarm is through a zone tamper the description will be shortened to 13 characters on the display, the last three characters being replaced with <space>T!

The zone descriptor is displayed whilst viewing the cause of an alarm, viewing the log, if a zone is violated during exit and when programming zone descriptors

User Names

816 840

Each user (with the exception of the engineer) may be allocated a user name of up to nine characters. This name will be shown if the system is being set with a master or main code type and whilst viewing the log.

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Keypads

The Gardtec *800 Series* of control panels may be operated via any of the Gardtec *800 Series* range of keypads. Several types of keypad are currently available: Standard or Contour 32 character LCD, Standard or Contour twin seven segment LED, and twin seven segment LED compact. Standard keypads will also require a remote housing if not fitted onto the main control panel. This housing may be fitted in any one of three orientations

The Gardtec *800 Series* is also ACE and MiniACE compatible. ACE allows for the setting, part setting, unsetting and resetting (if programmed) of the system via Infra-Red remote control keyfobs. ACE is available as a stand alone receiver or built into a RKP

LCD, LED and ACE keypads may be mixed on the same system allowing for total flexibility in control of the system. A maximum of eight keypads/ACE units may be fitted to the Gardtec *840* (four for *800/816*).

Uploading/Downloading & Remote System Management

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The Gardtec 800 *Series* is capable of uploading and downloading from both a primary location and secondary location (e.g Laptop computer), this helps reduce maintenance costs should there be a need to update the system program or a customer on site having difficulties.

This uploading/downloading capability has the ability to allow for complete Remote System Management.

3 System Installation

Planning The System

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Time should be taken to plan the system. Because the master control panel may be a blank end station it may be looked upon as an engineer box requiring no attention from the end user. When choosing a location for the master control panel consideration should be given to the following:-

The routing of cables, e.g detection, sounders, mains, telephone line, keypads etc.

Area aesthetics in view of the above.

Future access by service personnel.

Consideration also needs to be given as to the positioning of the remote keypads, wiring for the keypads may be 'star' or 'daisy chain' format (see Keypad Wiring for more details). When choosing locations for remote keypads the following points should be observed:-

- The proximity of the keypad to the entry/exit point(s).
- The operation of the keypad.
- The readability of the display.
- The wiring route to the keypad.

Where ACE units are used a clear line of sight from the transmitter to the receiver at a distance no greater than 3 metres *(1metre for MiniACE).

The metal version of the master control panel has ample trunking and conduit entries at the top and the bottom of the housing, in addition to these entries there is also a 5mm stand-off to allow for side cable entries

Control Panel Mounting

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Remove the two lid securing screws (single screw on polycarbonate version see Fig1) then (pushing in side buttons on polycarbonate version) pull the lid forwards and lift clear of the lid securing lip. Store the lid in a safe place.

Offer the base to the wall and using it as a template mark the four fixing point noting (on the metal version) that the lid securing lip should be at the bottom.

Store the base in a safe place then drill the wall. **Under no circumstances should you drill through the base.**

Before mounting the base to the wall remove any trunking or conduit entries that you require as knockouts.

Mount the base to the wall using 30mm No.10 screws and suitable rawl plugs.

After the installation has been completed refit the lid and secure with the retaining screw(s).

Keypad Mounting

800 816 840

The standard Gardtec *800 Series* keypad is available with a 32 character LCD display or with a twin seven segment LED display. All these keypads require the Gardtec *800 Series* RKP Housing Part No. 01-063 unless the keypad is to be mounted within the polycarbonate control panel (see Fig 1). Contour keypads are supplied as a complete unit for remote mounting.

This housing has been designed to allow mounting in one of three positions. These are:-

With the hinged flap to the left.	(See Fig 2a.)	Use fixing points A, B, D, E placing edge of board under tab F
With the hinged flap to the right.	(See Fig 2b.)	Use fixing points A, C, D, E
With the hinged flap to the bottom.	(See Fig 3.)	Use fixing points A, B, D, E placing edge of board under tab G

The base of the housing should be fixed to the wall using 25mm x No.8 screws and suitable rawl plugs in three positions.
After the keypad has been mounted in the base, the correct spring (supplied with the keypad) should be pushed onto the tamper switch (see Figs 2 & 3 for spring details).

Before replacing the cover move the ident jumper to the correct position.
Provided that the panel is mounted horizontally the keypad may also be mounted onboard the polycarbonate control panel (see Fig1) by removing the keypad blanking plate in the control panel cover. It should be noted that any zone expanders, ID expanders or output expanders cannot be fitted onboard if this option is chosen.

Fig 1 Polycarbonate Case with Onboard Keypad Mounting Details

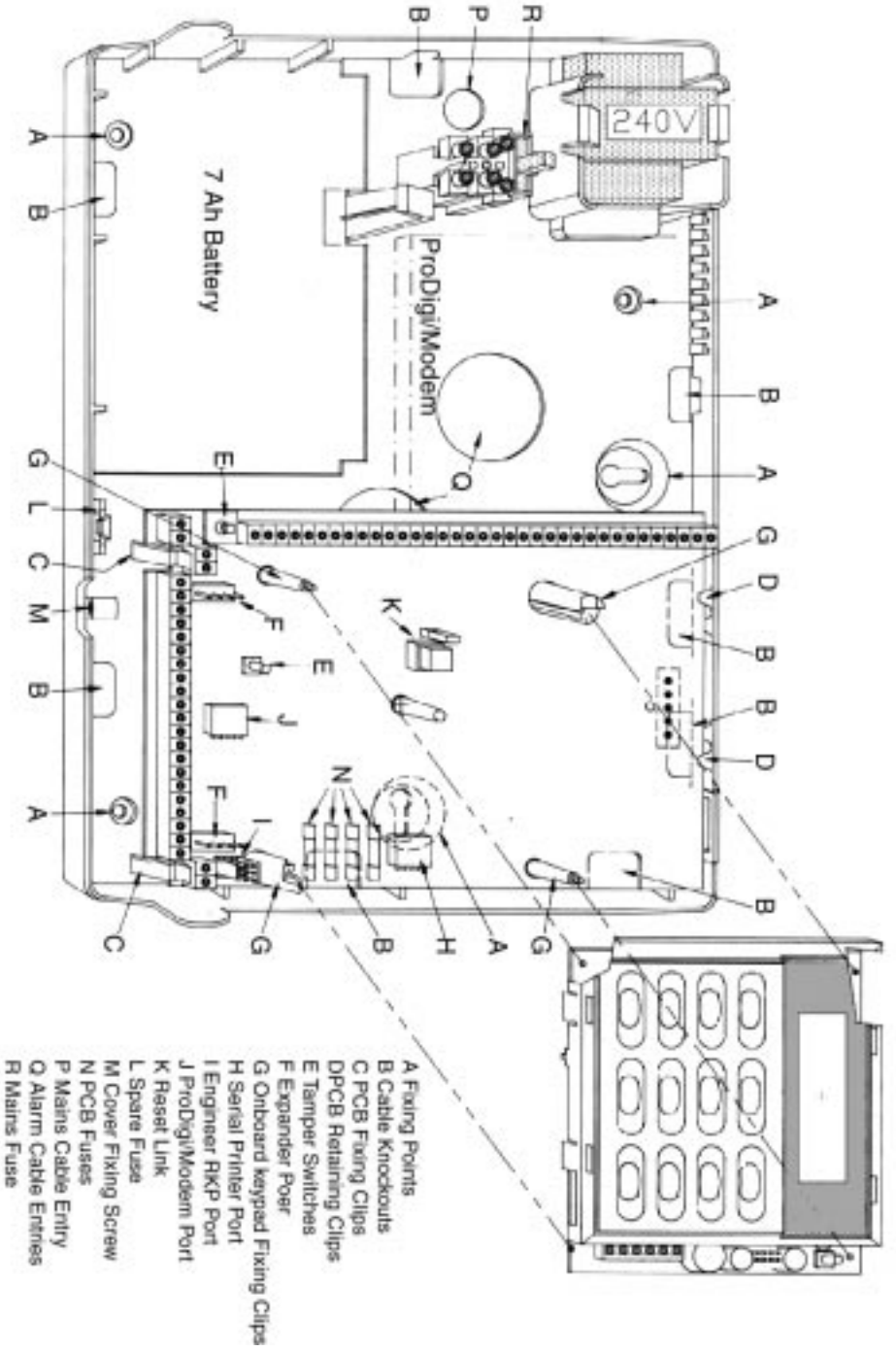
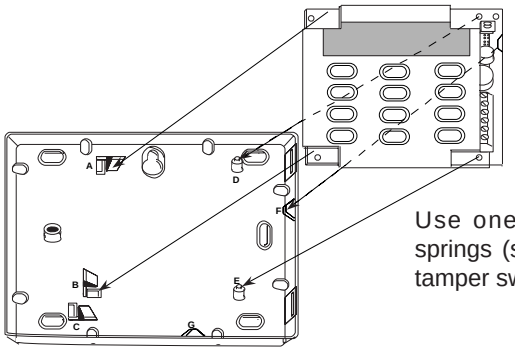
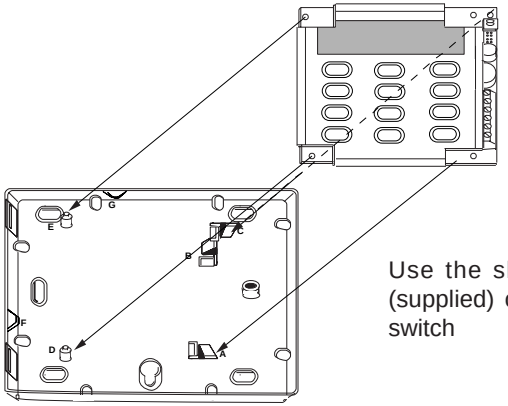


Fig 2a. Flap to left Standard RKP with Housing Base



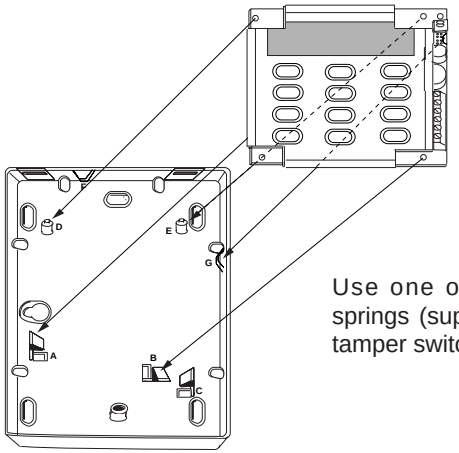
Use one of the longer springs (supplied) on the tamper switch

Fig 2b. Flap to right Standard RKP with Housing Base



Use the shorter spring (supplied) on the tamper switch

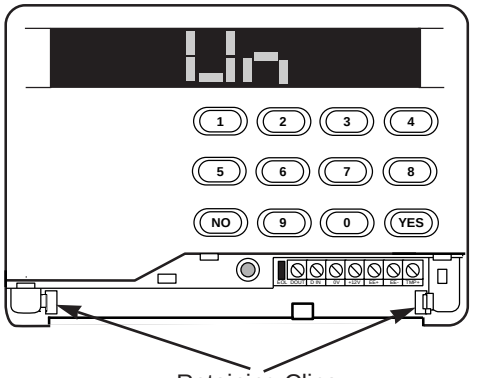
Fig 3. Flap to bottom Standard RKP with Housing Base



Use one of the longer springs (supplied) on the tamper switch

A second style of keypad known as the Gardtec *800 Series* compact LED keypad is also available. To mount this keypad remove the bottom flap securing screw and remove the bottom flap by pulling it forwards and downwards in one movement. The front of the keypad (including the PCB) may now be removed moving the two retaining clips inwards and lifting the cover clear of the base (see Fig 4.)

Fig 4. Gardtec *800 Series* LED Compact.



Retaining Clips

The base should be fastened to the wall in three positions using 30mm x No.6 screws and suitable rawl plugs.

Fig 4a Contour RKP

Lower Flap to reveal single cover fixing screw

A stand alone ACE receiver is also available. This receiver will allow for the setting, part setting, unsetting, resetting (if programmed) and activation of alert keys 1 & 3.

To mount the ACE receiver remove the front retaining screw of the receiver that is situated on the underside of the unit, pull the bottom edge of the cover forwards and upwards in one movement. The PCB may now be removed by unclipping it at the bottom edge and lifting clear of the base.

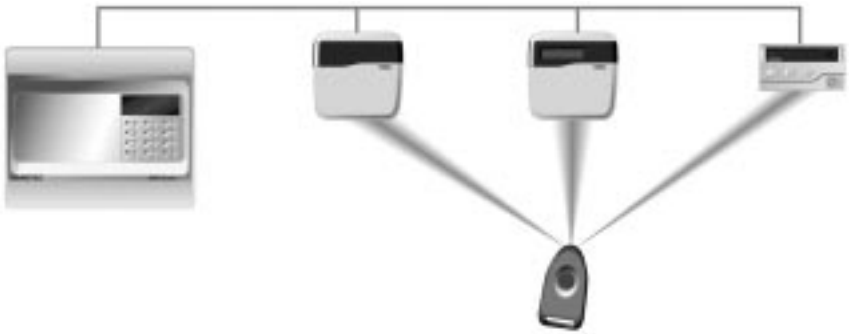
Fig 5. ACE Receiver

The base should be fixed to the wall in three positions using 30mm x No.6 screws and suitable rawl plugs.

It should be noted that the ACE receiver may only be used as keypad ident 1 or 2.

The new Contour range of stylish remote keypads are also available for the full Gardtec *800 Series* range of control panels. These keypads are designed to be fitted remote from the main control panel and both the LED and LCD versions are available with MiniACE as standard.

Fig 5a MiniACE



4 WIRING CONNECTIONS

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With the exception of the mains wiring all interconnections should be made with multicore 7/.02 alarm cable.

Good wiring practice should be observed throughout the installation and the following tips may prove useful.

Never run alarm cables parallel to mains cables, telephone cables or any other cables that may be carrying inductive loads

Whenever you have to cross mains cables with alarm cables ensure that you do so at 90°

Whenever possible wire the mains connection for the control panel back to the consumer unit via a 3A unswitched fused spur.

Never tap into ring main circuits that have fridges/freezers on them.

Never tap into lighting circuits that have fluorescent lighting units on them.

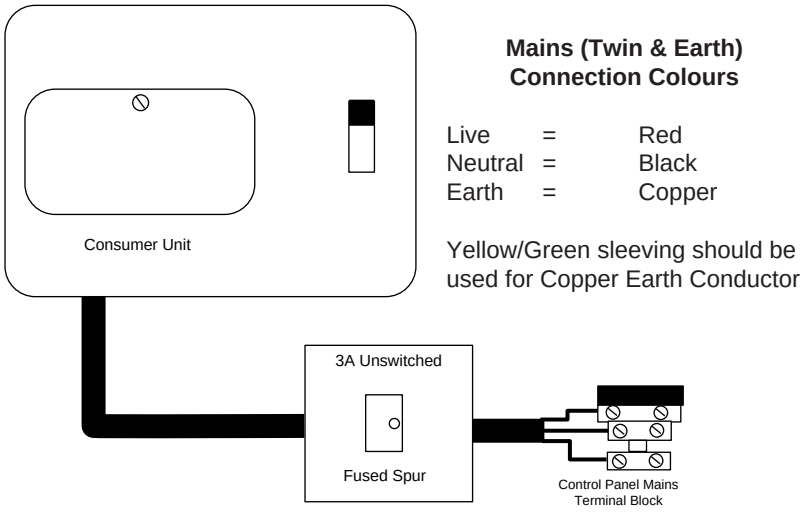
Mains Supply Connection

800 816 840

The mains connection for the Gardtec *800 Series* should be as shown in Fig 6.

Fig 6.

Warning the Gardtec *800 Series* control panels MUST BE EARTHED.



Keypad Wiring

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Keypads may be wired in 'Star' format (each keypad being wired back to the master control panel) see Fig 7a, or 'Daisy Chain' format (from the control panel to the first keypad then onto the second keypad etc) see Fig 7b. It is also possible to wire the keypads with a mix of 'Star' and 'Daisy Chain' formats see Fig 8.

Fig 7a. 'Star' format wiring.

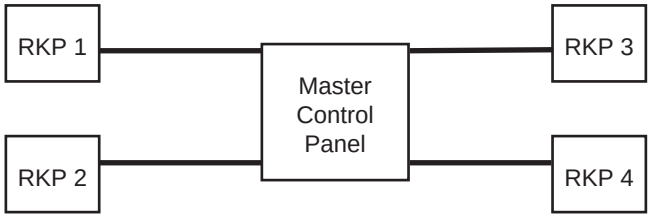


Fig 7b. 'Daisy Chain' format wiring.

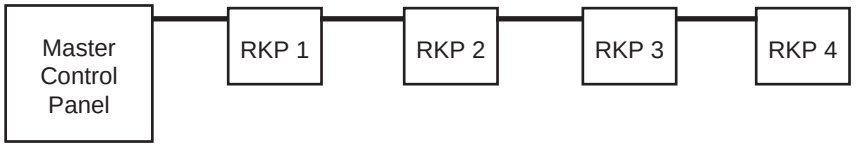
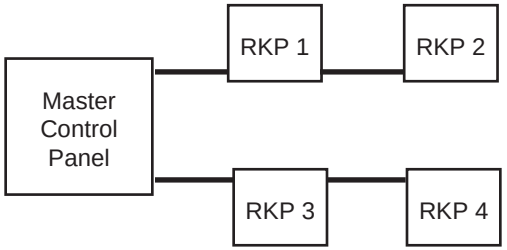


Fig 8. Mix of 'Star' and 'Daisy Chain' wiring.



Note: All keypads need to be numbered via the onboard ident jumper switches.

Note: ACE receivers count as RKPs and may only be numbered as RKP 1 or 2 (unless built into RKP).

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Keypad Terminal Connections

Some keypads that are compatible with other Gardiner Technology control panels may have additional markings as well as the Gardtec *800 Series* legends. These additional markings are disregarded within this manual.

They may also have three extra terminals marked as follows:-

E/E -VE

E/E +VE

TMP+

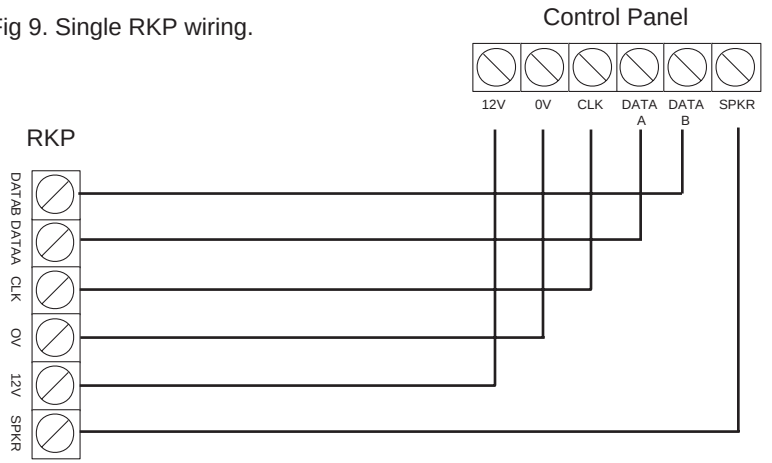
These terminals are not applicable to the Gardtec *800 Series* therefore the two factory fitted links to these terminals should be left in place, the links are as follows:-

E/E-VE is linked to E/E+VE

TMP+ is linked to 0V

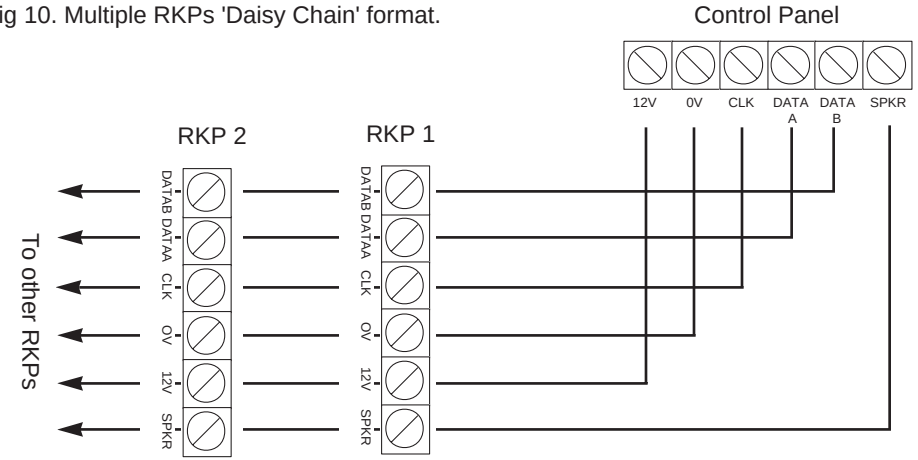
The keypad port on the master control panel is situated on the bottom edge of the PCB towards the right hand side. Wiring to the RKP(s) is terminal to terminal as shown in the following illustrations.

Fig 9. Single RKP wiring.



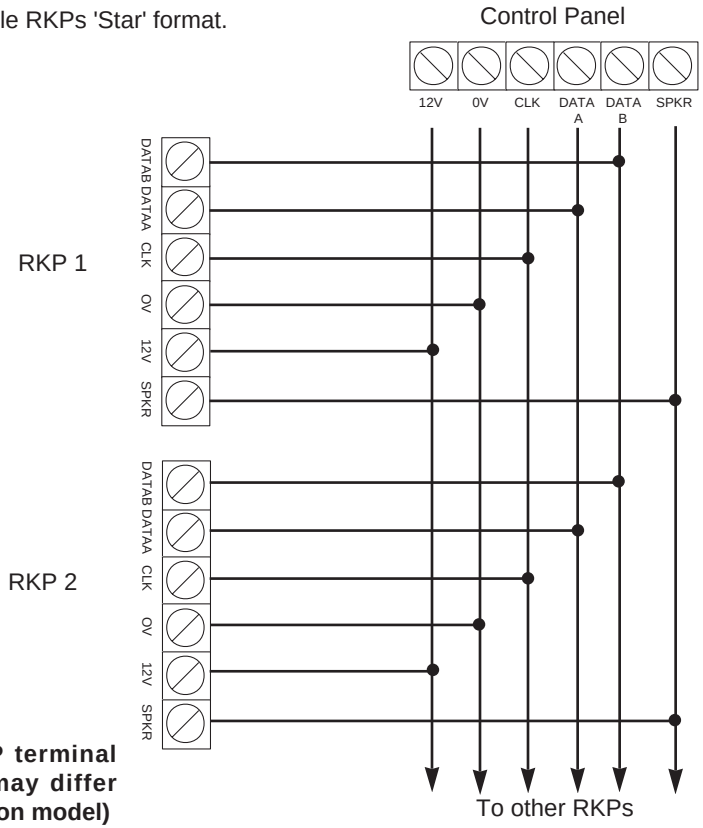
NOTE: RKP terminal positions may differ (dependent on model)

Fig 10. Multiple RKPs 'Daisy Chain' format.



NOTE: RKP terminal positions may differ (dependent on model)

Fig 11. Multiple RKPs 'Star' format.



NOTE: RKP terminal positions may differ (dependent on model)

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Keypad Jumper Options

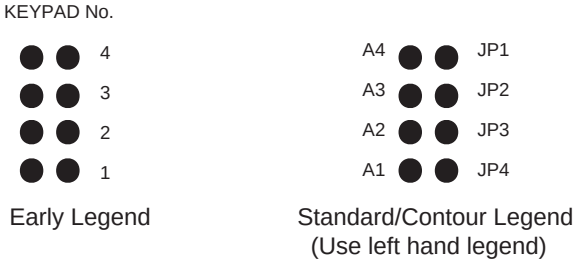
Keypad Numbering (ident)

All keypads must have the ident jumper in position in order that the system can recognise the keypad it is communicating with. This information is written to the log as the system is set and unset. If greater than four RKPs are required on the *840* the Multi Keypad option should be programmed to On, two keypads may then share the same ident. It should be noted that LCD & LED RKPs may not share the same ident.

LCD and LED versions

Four jumper links are fitted on the LCD and LED versions of the keypad. On earlier Standard keypads the legend was slightly different as shown in Fig 12.

Fig 12. Keypad ident legends.



Note: Contour keypads fitted with ACE have two additional jumpers for the ACE functions, these are:-

US This jumper is the user select. With the jumper link removed each ACE key fob will occupy one user code from the system, this is termed as high security mode.

With the jumper link in position the ACE will occupy one user code from the system but up to fourteen key fobs may be programmed into the ACE, this is normal security mode.

NVM With this jumper in position the NVM contents will be cleared when the unit is powered up. All codes will be lost

The ident jumper should be positioned across the pins in one of the positions **before the system is powered up.**

Gardtec *800 Series* Compact RKP
The keypad ident on the compact RKP is through JP 1 to JP 4 respectively.

JP 5 to JP8 (applicable to later multi-purpose keypads only)

Note: some of these jumpers may not be fitted on versions without ACE

JP 5 (ACE User Select) ACE units only
This jumper is the user select. With the jumper link removed each ACE key fob will occupy one user code from the system, this is termed as high security mode.

With the jumper link in position the ACE will occupy one user code from the system but up to fourteen key fobs may be programmed into the ACE, this is normal security mode.

JP 6 (Reset) ACE units only
The ACE has a Non-Volatile Memory (NVM). If power is applied to the unit with this jumper in position, the memory contents will be erased. When the unit is first powered up, this jumper should be in position for at least 5 seconds. After this initial period the jumper link should be removed.

If a reset of the ACE is required (all fobs to be deleted) this jumper link should be refitted and the unit re-powered.

JP 7 (Panel Type Select)
This jumper selects the keypad as Gardtec *580* or Gardtec *800 series.* With the jumper in position the keypad will be Gardtec *580* compatible. With the jumper removed the keypad will be Gardtec *800 Series* compatible.

JP 8 (EOL)
This jumper is the End Of Line jumper and is applicable to the Gardtec *350+* and Gardtec *580* only. **This jumper MUST BE REMOVED when used with the Gardtec *800 Series*.**

Note: Instructions for how to program keyfobs to the ACE and using ACE are contained within the LED user manual

ACE Receiver Wiring & Jumper Options

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ACE is also available as a stand alone receiver. The wiring for the receiver is the same as for the RKP(s) with the exception that the speaker wiring terminal on the ACE is marked as SP- and **not** SPKR.

The ACE receiver is link selectable as unit No.1 or unit No.2 and it is permissible to have two units sharing the same ident.

Five options are available that are selected with jumper links.These options are as follows.

JP1 (US)
This jumper is the user select. With the jumper link removed each ACE key fob will occupy one user code from the system, this is termed as high security mode.

With the jumper link in position the ACE will occupy one user code from the system but up to fourteen key fobs may be programmed into the ACE, this is normal security mode.

JP2 (RP)
This jumper is only used when the ACE is fitted to the Gardtec *800 Series* control panels and is used to select the ACE ident as 1 or 2 . This ident should be viewed as the RKP ident. With the jumper off the ACE will be remote device two, with the jumper fitted the ACE will be device number one.

JP3 (PN)
This jumper is used to select the panel type when ACE is used with the Gardtec *350+* or Gardtec *580* control panels. **The jumper has no use when used with the Gardtec *800 Series* and should be left in position.**

JP4 (RST)
The ACE has a Non-Volatile Memory (NVM). If power is applied to the unit with this jumper in position, the memory contents will be erased. When the unit is first powered up, this jumper should be in position for at least 5 seconds. After this initial period the jumper link should be removed.

If a reset of the ACE is required (all fobs to be deleted) this jumper link should be refitted and the unit re-powered.

JP5 (EOL)
This jumper is the End Of Line jumper and is applicable to the Gardtec *350+* and Gardtec *580* only. **This jumper MUST BE REMOVED when used with the Gardtec *800 Series*.**

Note: Ensure all links are in desired position before powering up the ACE.

Output Connections

800 816 840

The output connections for the Gardtec *800 Series* are situated along the bottom edge of the main PCB in the master control panel.

Warning:-
It should be noted that the total output current available for the Gardtec *800 Series* is 1 Amp. Any attempt to draw a total current greater than this could result in serious damage to the control panel that is not covered by the manufacturers warranty.

Below is a description of each terminal. The order given is the same as the terminal order on the PCB looking from left to right.

Output Terminal Descriptions

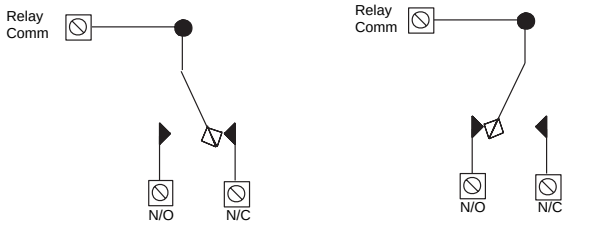
816 840

RELAY COMM
A 24V 1Amp *[1] changeover relay is provided on the Gardtec *816/840* PCB. This relay is fully programmable (refer to Programmable Options Description). The relay contacts are voltage free. This terminal is the common connection (see Fig. 13).

N/O
Normally Open connection for onboard relay (see Fig. 13).

N/C
Normally Closed connection for onboard relay (see Fig. 13).

Fig. 13 Onboard Relay Operation



*[1] ***No attempt should be made to exceed the stated current and the 1 Amp maximum current draw from the control panel must be taken into consideration.***

800 816 840

BATT + & -
Factory fitted Sealed Lead Acid battery connections. The Gardtec *840* is suitable for the installation of all the popular sizes of alarm batteries. Suggested sizes would be:-

12V 1.2Ah	Suitable only for the smallest installations.
12V 2.0Ah	Suitable only for small installations.
12V 3.0Ah	Suitable for small to medium size installations.
12V 7.0Ah	Suitable for all installations.

Reference should be made to current policies to determine the actual battery capacity requirements for your system. As a general rule:-

Calculate the total quiescent current draw of the system including control panel, RKPs, communicator, detectors and any other auxiliary equipment then use this in the equation shown:-

Quiescent Current x 8 hours = Minimum Battery Size

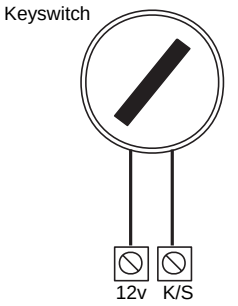
The actual size of the battery should be made up to the nearest size available.

800 816 840

K/S
Keyswitch input. If required the Gardtec *816/840* may be operated by a keyswitch. Operation is by applying 12V to this terminal (see Fig. 14). The mode of operation is dependent on how the keyswitch option is programmed (refer to Programmable Options Description and also see Remote Reset).

Note:- The Gardtec*840* may be programmed to use zones for keyswitch setting.

Fig. 14 Keyswitch Connection



Note: **Keyswitch type may be Normal (Open/Close)**

or Biased (Momentary)

or Locked (keypads lock when used)

See also Remote Reset

840

ZONE KEYSWITCH OPTION

Up to eight zones may be allocated as zone keyswitches. This option is carried out via the 'Program Zone Type' option. Either Normal or Biased keyswitches may be used and the correct option for the keyswitch you are using should be chosen during programming.

Wiring for the keyswitch should be across the AZ pair of the zone, the TZ pair of the zone may be used in the normal manner.

In order for this keyswitch option to operate there must be a User code allocated for the area that the keyswitch is intended to control, e.g if allocated to control area 2 then an area 2 code needs to be programmed on to the system.

In order that the keyswitch operations are recorded to the log in the correct manner we would suggest that the highest user codes (e.g 45 - 47 for 3 keyswitches) are used. The following example shows a typical format for the user names.

User Name (example)	**or**	**User Name(example)**	**Area**	**User No.**
DOOR KEY	or	MARY KEY	Area 1	User 47
STORES KEY	or	FRED KEY	Area 2	User 46
SALES	or	HARRY KEY	Area 3	User 45

Because the Gardtec *840* reads the list of users from high to low the log will show for example Set MARY KEY A1 hh/mm/dd/mm. If User numbers are not reserved or allocated then the system will use the first code available (reading high to low) for that particular area set.

Space has been made at the start of the User manual to give indication to an end user of what user codes, if any have been reserved for this purpose. Please take time to fill in this section for end user reference.

800 816 840

0V (DIGI)

0V (-VE) connection to a Digital communicator or Red-Care STU

12V (DIGI)

12V (+VE) connection to a Digital communicator or RED-Care STU. The output from this terminal is protected by the GARD fuse (315mA)*[1] on the main PCB.

LINE FAULT

This is the Line Fault input terminal. The terminal should be held @12V by the communicator and swing to 0V to produce a Line Fault condition on the control panel. If Line Fault is not used the factory fitted link to 12V should be left in place.

Note: To activate this terminal the programmable option 'DIGICOM TYPE' must be programmed to 'NORMAL'.

Note: If the Gardiner Technology ProDigi or Modem is to be used on serial comms (plugged into the main PCB) the factory fitted link from this terminal to 12V MUST be removed.

800 816 840

REMOTE RESET

(Note This option may use the Linefault or KS terminal). The Line Fault or the K/S terminal (dependant on option 127 Remote Reset Source) also doubles as the Remote Reset input (normally found on Red-Care STUs sometimes termed as Remote Signal Path). To use this feature the 'REMOTE RESET' option should be programmed to ON (option 39). After an alarm the control panel will reset when 12V is applied to this terminal.

The feature allows the use of RedCare units with Remote Reset even when a Modem is connected. It should be noted that the triggers for the RedCare should be from the P.A, D1 & D2 terminal. Do not use the 12Hr terminal as this doubles as a data connection for the Modem.

The Remote Reset feature may also be used to auto-reset the control panel after an alarm. This must only be used on non BS 4737 systems when the panel is being used for purposes other than security. The auto-reset is achieved by leaving the factory fitted link in position and turning the 'REMOTE RESET' (option 39) ON

800 816 840

PA

This terminal is the Digicom output for PA (Personal Attack)and would normally be connected to channel 2 of a communicator. The output is open collector and has a maximum current sink of 50mA*[1] *[2]

12HR

This terminal is the Digicom output for 12HR (Alarm)and would normally be connected to channel 3. The output is open collector and has a maximum current sink of 50mA*[1] *[2]

If the ProDigi or Modem are not used PA & 12Hr are programmable under the option D3 & D4

*[1] ***No attempt should be made to exceed the stated current and the 1 Amp maximum current draw from the control panel must be taken into consideration.***

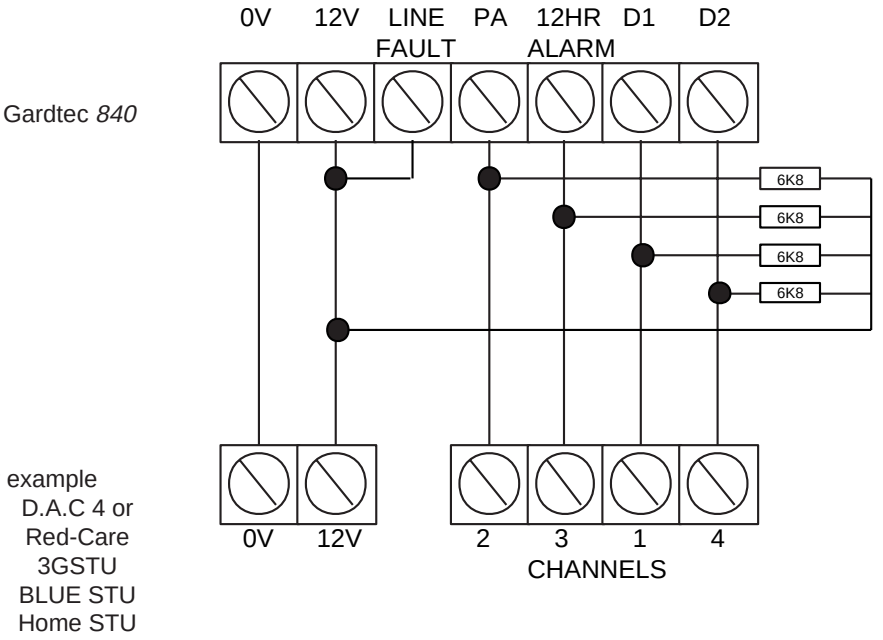
*[2] ***Some Digicoms may require a 6K8 pull-up resistor fitting between this output and 12V***

D1 & D2

These terminals are digicom outputs that are fully programmable by the engineer (see Programmable Options Description for more details). The outputs are open collector and have a maximum current sink of 50mA*[1] *[2]. On systems only using two channels or systems using the ProDigi or Modem D1 & D2 are free for other uses.

Note: The start polarity is of the Digicom port is programmable by the engineer.

Fig. 15 Typical Digicom Wiring



Note: D1 should be programmed for FIRE (Chan1)

D2 should be programmed for OPEN/CLOSE (Chan4)

Program Digicom Type to NORMAL

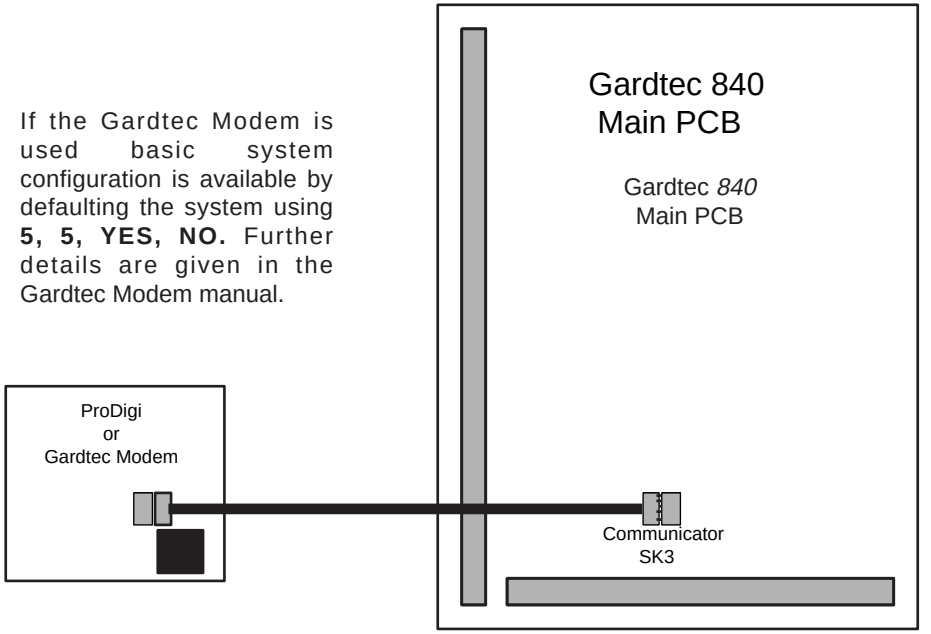
6K8 resistors provide Pull-Up for open collector outputs

*[1] ***No attempt should be made to exceed the stated current and the 1 Amp maximum current draw from the control panel must be taken into consideration.***

*[2] ***Some Digicoms may require a 6K8 pull-up resistor fitting between this output and 12V***

Fig. 16 ProDigi or Gardtec *840* Modem Wiring.

If the Gardtec Modem is used basic system configuration is available by defaulting the system using **5, 5, YES, NO.** Further details are given in the Gardtec Modem manual.



Note: Modem will give 8 channels and leave D1, D2 & D3 (PA term) free for other uses

For a ProDigi program Digicom Type to Gardiner

For Modem Mod+FF or MOD+PID

Remove link from 12V & Line Fault Terminals before connecting ProDigi/Modem

Both the ProDigi and Gardtec Modem can be programmed direct from the Gardtec *840*

Modem Patch Lead

800 816 840

If the Gardtec *800 Series* Modem patch lead is to be used for direct connection to a PC or Lap-Top It should be connected to SK3. **The factory fitted link between 12V & Line Fault must be removed.** Full instructions on use of the Gardtec *800 Series* Modem Patch lead are supplied with the unit.

SW+ LATCH 800 816 840

This terminal is high (+12V) when the system is set and low (0V) when the system is unset. Typical use for this terminal would be the latch signal for PIRs and Shockgards etc. A maximum sink of 50mA *[1]

DET RESET 800 816 840

This +VE supply terminal is provided for the types of detectors that require the removal of power to reset them. In the default mode the 12V supply from this terminal will pulse off for three seconds during the exit time. The terminal is also programmable for other uses (see Programmable Options Description for more details). A maximum current draw of 50mA*[1] is available.

STROBE + | - 800 816 840

This pair of terminals provide power for the strobe light during and after an alarm. The negative terminal is switched. A maximum current of 1Amp*[1] can be switched with these terminals.

BELL + | - 800 816 840

This pair of terminals provide power for the bell during an alarm. The negative terminal is switched. A maximum current draw of 1Amp*[1] is available from these terminals.

The positive terminal also provides the positive hold off for the SAB.

In SCB mode (see Programmable Options Description), the terminals stand at + & -. The negative terminal will change state to positive for the duration of the alarm.

It should be noted that the operation of the bell is influenced by the programmable options Bell Delay, Bell Ring Time and Number of Arms (see Programmable Options Descriptions for more details).

BELL HOLD - 800 816 840

This terminal is the negative tamper feed and also provides the negative Hold Off for the SAB.

The terminal has a factory fitted link fitted to the SAB TMP terminal in order to keep the bell tamper clear. **This link should be removed** as the bell wiring is connected.

SAB TMP 800 816 840

This terminal is the tamper return from the Bell Box. If unused the factory fitted link to Bell Hold- should be left in place.

*[1] ***No attempt should be made to exceed the stated current and the 1 Amp maximum current draw from the control panel must be taken into consideration..***

RKP 12V 800 816 840

This terminal provides the +12V supply for the keypads and ACE units (see Keypad Wiring for more detail). A maximum current draw of 0.5Amp*[1] is available from this terminal.

RKP 0V 800 816 840

This terminal is the 0V supply for the keypads and ACE units (see Keypad Wiring for more detail).

CLK 800 816 840

This terminal is the Clock connection for the keypads and ACE units (see Keypad Wiring for more detail).

DATA A 800 816 840

This terminal is the Data A connection for the keypads and ACE units (see Keypad Wiring for more detail).

DATA B 800 816 840

This terminal is the Data B connection for the keypads and ACE units (see Keypad Wiring for more detail).

SPKR & SP+ 800 816 840

These terminals are connected to any extension speakers (min impedance 16 Ohm) that are fitted. The SP+ is the common and SPKR is the output of the amplifier driver.

The SPKR terminal is also connected to the SPKR (speaker terminal) on the RKP(s).

The current drawn by any extension speakers needs to be calculated in the total system current. The current drawn by a 16 Ohm speaker would typically be 300mA.

Fig. 17 Single Speaker

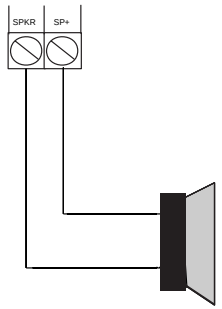
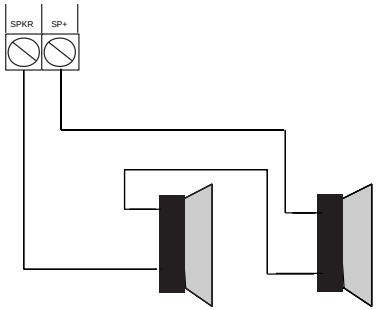


Fig. 18 Twin Speakers (wired in series)



Note: Minimum speaker impedance is 16 Ohm

*[1] ***No attempt should be made to exceed the stated current and the 1 Amp maximum current draw from the control panel must be taken into consideration..***

Fig. 19 Typical output wiring

.

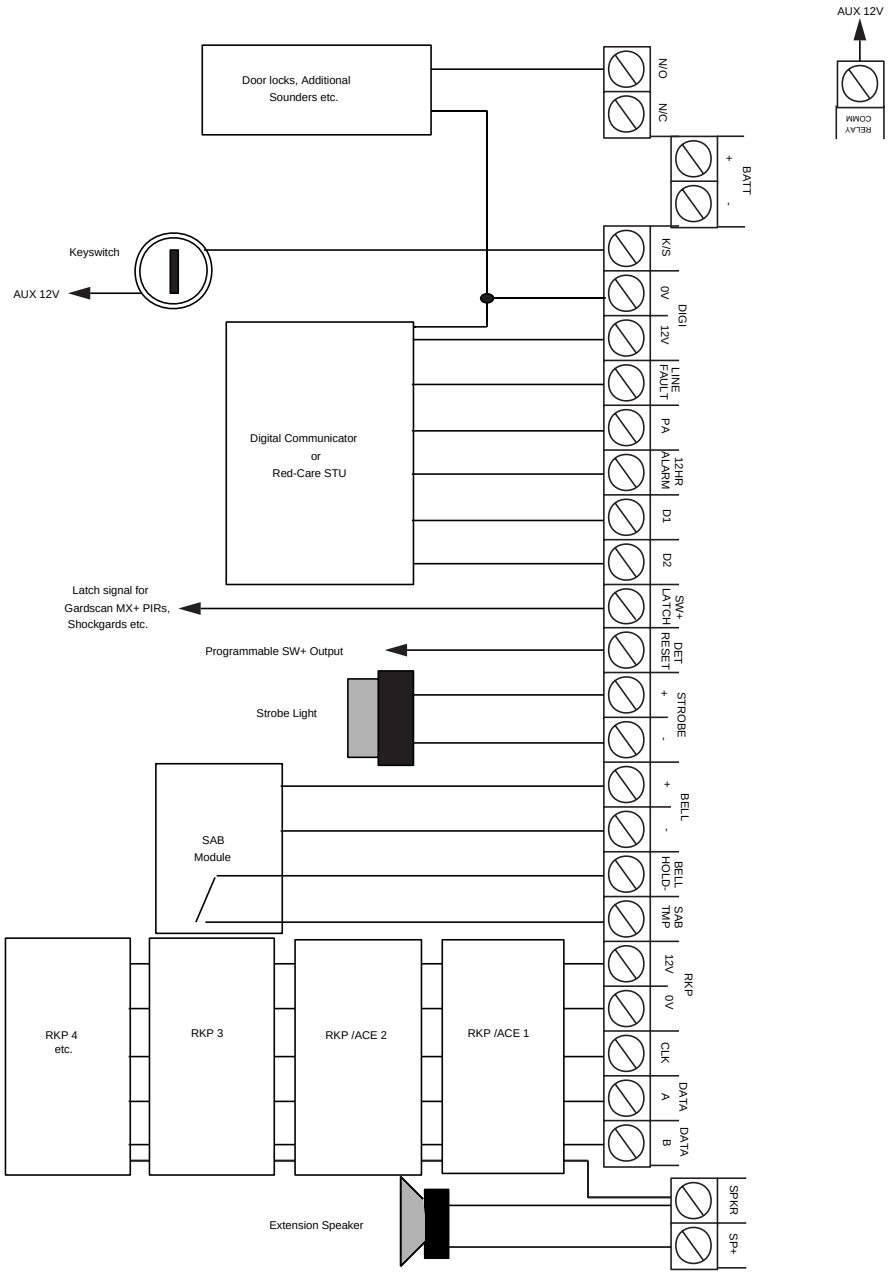


Fig. 20 Traditional bell box wiring.

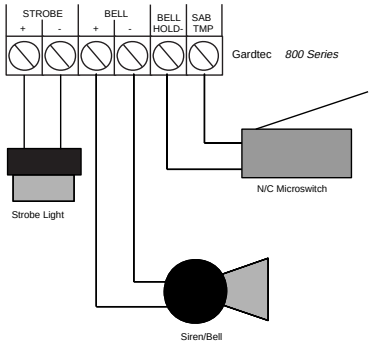
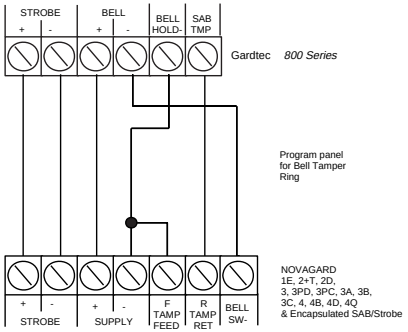
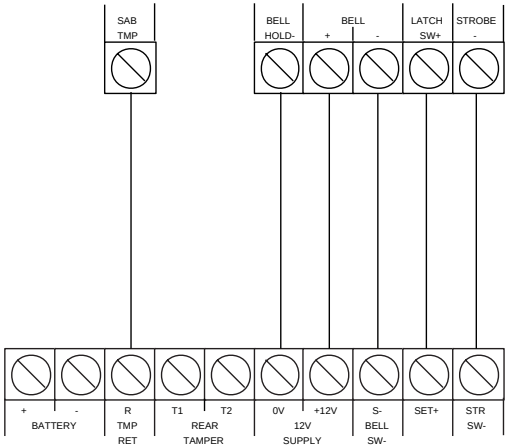


Fig. 21 Novagard wiring



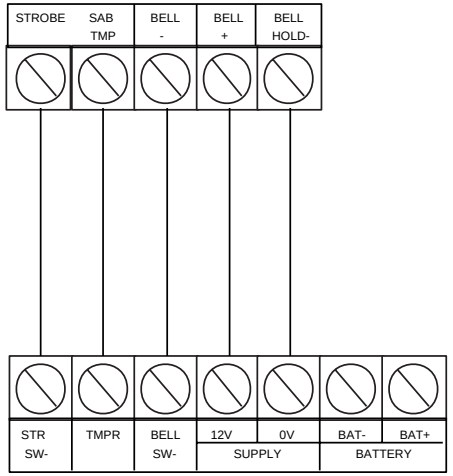
Note: Terminal positions may change dependent on model.

Fig. 22a Novagard X wiring



Note: Terminal positions changed for clarity

Fig. 22b Novagard Delta & Novagard Metal wiring.



Note: Terminal positions changed for clarity

Zone Connections
(control panel 4 Wire option)

800 816 840

Three wiring methods are possible for the zones located on the main PCB in the Gardtec *840* control panel. The first is 4 wire or normal type wiring, if this default option is chosen 8 double pole zones are available (8 alarm zones and 8 tamper zones).

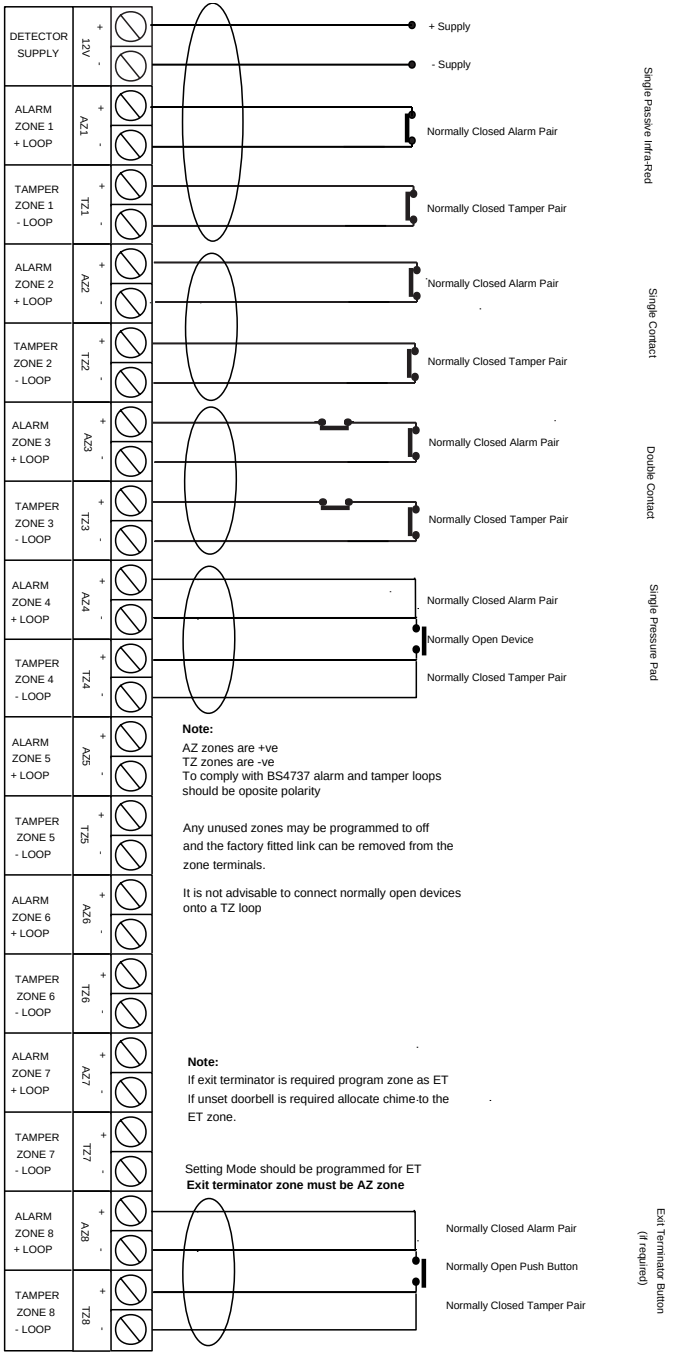
To use the 4 wire option the control panel should be programmed for 8 (4 WIRE) in the programming section 'PROGRAM ZONE WIRING' (option No.50).This is the default setting.

Each zone is fully programmable. Details of the zone options available are given in the section 'Programmable Options Description'. Each alarm zone is marked as AZx and is a positive loop, each tamper zone is marked as TZx and is a negative loop.

If pressure pads or other normally open devices, are to be used the AZ zone should be shorted to the TZ zone by the device in order to activate the AZ zone.

Typical wiring of various detectors is given in Fig. 23

Fig. 23 Typical 4 Wire Configuration


DETECTOR SUPPLY
12V
+ Supply
- Supply
ALARM ZONE 1 + LOOP
AZ1
Normally Closed Alarm Pair
TAMPER ZONE 1 - LOOP
TZ1
Normally Closed Tamper Pair
Single Passive Infra-Red
ALARM ZONE 2 + LOOP
AZ2
Normally Closed Alarm Pair
TAMPER ZONE 2 - LOOP
TZ2
Normally Closed Tamper Pair
Single Contact
ALARM ZONE 3 + LOOP
AZ3
Normally Closed Alarm Pair
TAMPER ZONE 3 - LOOP
TZ3
Normally Closed Tamper Pair
Double Contact
ALARM ZONE 4 + LOOP
AZ4
Normally Closed Alarm Pair
Normally Open Device
TAMPER ZONE 4 - LOOP
TZ4
Normally Closed Tamper Pair
Single Pressure Pad
ALARM ZONE 5 + LOOP
AZ5
TAMPER ZONE 5 - LOOP
TZ5
ALARM ZONE 6 + LOOP
AZ6
TAMPER ZONE 6 - LOOP
TZ6
ALARM ZONE 7 + LOOP
AZ7
TAMPER ZONE 7 - LOOP
TZ7
ALARM ZONE 8 + LOOP
AZ8
Normally Closed Alarm Pair
Normally Open Push Button
TAMPER ZONE 8 - LOOP
TZ8
Normally Closed Tamper Pair
Exit Terminator Button (If required)
Note:
AZ zones are +ve
TZ zones are -ve
To comply with BS4737 alarm and tamper loops should be oposite polarity
Any unused zones may be programmed to off and the factory fitted link can be removed from the zone terminals.
It is not advisable to connect normally open devices onto a TZ loop
Note:
If exit terminator is required program zone as ET
If unset doorbell is required allocate chime to the ET zone.
Setting Mode should be programmed for ET
Exit terminator zone must be AZ zone

Zone Connections
(control panel 2 Wire option)

800 816 840

The second wiring method is Two Wire. This option will give sixteen zones available from the control panel PCB.

To use the 2 wire option the control panel should be programmed for 16 (2 WIRE) in the programming section 'PROGRAM ZONE WIRING' (option No.50)

When this wiring option is programmed zones AZ1 to AZ8 are zones 1 to 8 inclusive, all AZ zones are positive loops.

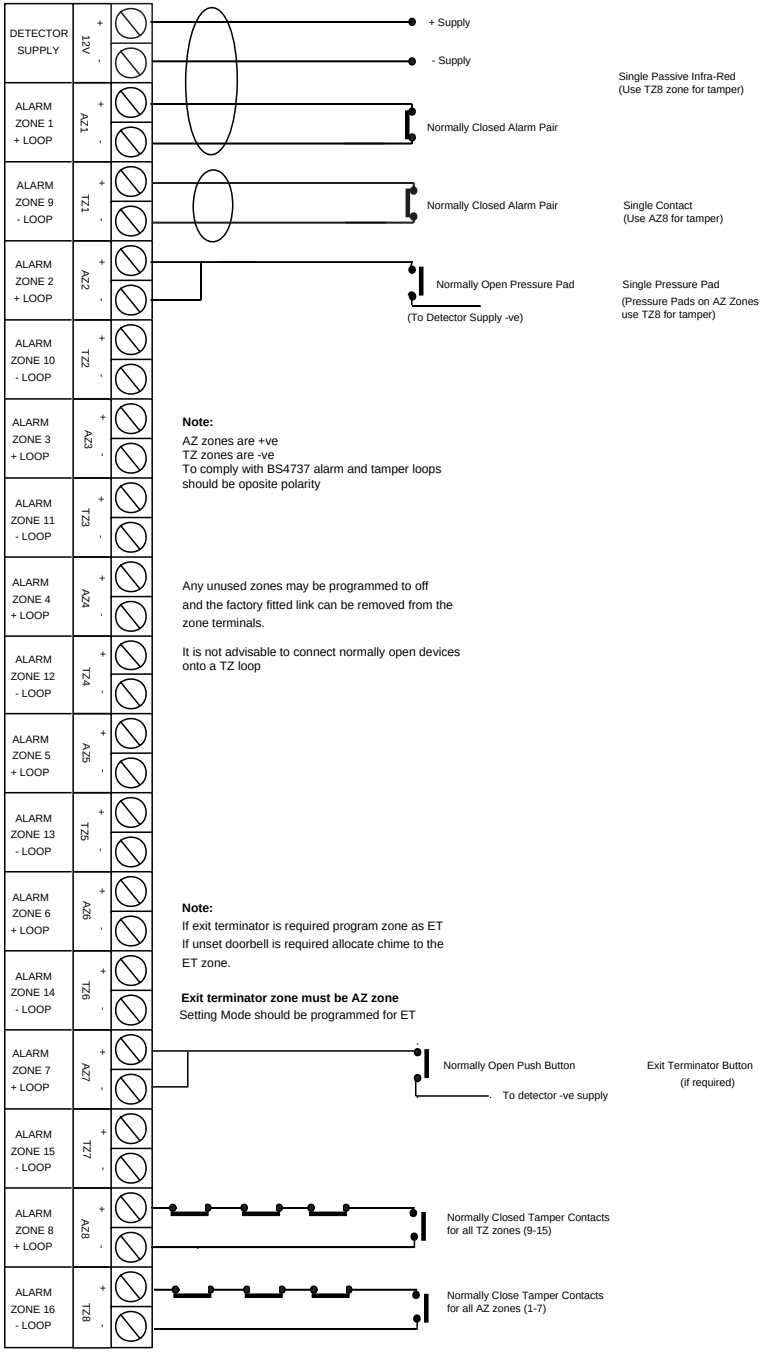
Because the 2 wire option has been selected the TZ terminals are also programmable as zones. The zone numbering for the TZ zones will be as follows:-

Zone 9 on terminals TZ1
Zone 10 on terminals TZ2
Zone 11 on terminals TZ3
Zone 12 on terminals TZ4
Zone 13 on terminals TZ5
Zone 14 on terminals TZ6
Zone 15 on terminals TZ7
Zone 16 on terminals TZ8

It should be noted that in order to comply with the requirements of BS 4737 zones and tampers should be of opposite polarity. This means that when using the 2 wire wiring option one AZ zone (e.g zone 8, AZ8) should be programmed as 24Hr and used as a global tamper for all TZ zones, and one TZ zone (e.g zone 16, TZ8) should be programmed as 24Hr and used as a global tamper for all the AZ zones.

Typical wiring of various detectors is given in Fig.24

Fig. 24 Typical 2 Wire Configuration


DETECTOR SUPPLY
12V + -
+ Supply
- Supply
Single Passive Infra-Red
(Use TZ8 zone for tamper)
ALARM ZONE 1 + LOOP
AZ1 + -
Normally Closed Alarm Pair
ALARM ZONE 9 - LOOP
TZ1 + -
Normally Closed Alarm Pair
Single Contact
(Use AZ8 for tamper)
ALARM ZONE 2 + LOOP
AZ2 + -
Normally Open Pressure Pad
(To Detector Supply -ve)
Single Pressure Pad
(Pressure Pads on AZ Zones use TZ8 for tamper)
ALARM ZONE 10 - LOOP
TZ2 + -
ALARM ZONE 3 + LOOP
AZ3 + -
Note:
AZ zones are +ve
TZ zones are -ve
To comply with BS4737 alarm and tamper loops should be oposite polarity
ALARM ZONE 11 - LOOP
TZ3 + -
ALARM ZONE 4 + LOOP
AZ4 + -
Any unused zones may be programmed to off and the factory fitted link can be removed from the zone terminals.
It is not advisable to connect normally open devices onto a TZ loop
ALARM ZONE 12 - LOOP
TZ4 + -
ALARM ZONE 5 + LOOP
AZ5 + -
ALARM ZONE 13 - LOOP
TZ5 + -
ALARM ZONE 6 + LOOP
AZ6 + -
Note:
If exit terminator is required program zone as ET
If unset doorbell is required allocate chime to the ET zone.
Exit terminator zone must be AZ zone
Setting Mode should be programmed for ET
ALARM ZONE 14 - LOOP
TZ6 + -
ALARM ZONE 7 + LOOP
AZ7 + -
Normally Open Push Button
To detector -ve supply
Exit Terminator Button
(if required)
ALARM ZONE 15 - LOOP
TZ7 + -
ALARM ZONE 8 + LOOP
AZ8 + -
Normally Closed Tamper Contacts for all TZ zones (9-15)
ALARM ZONE 16 - LOOP
TZ8 + -
Normally Close Tamper Contacts for all AZ zones (1-7)

Zone Connections
(control panel 2 Wire EOL option)

800 816 840

The third wiring method is Two Wire EOL (End Of Line resistor). This option will give sixteen zones available from the control panel PCB.

To use the 2 wire EOL option the control panel should be programmed for 16 (2 WIRE EOL) in the programming section 'PROGRAM ZONE WIRING' (option No.50)

When this wiring option is programmed zones AZ1 to AZ8 are zones 1 to 8 inclusive.

Because the 2 wire EOL option has been selected the TZ terminals are also programmable as zones. The zone numbering for the TZ zones will be as follows:-

Zone 9 on terminals TZ1
Zone 10 on terminals TZ2
Zone 11 on terminals TZ3
Zone 12 on terminals TZ4
Zone 13 on terminals TZ5
Zone 14 on terminals TZ6
Zone 15 on terminals TZ7
Zone 16 on terminals TZ8

Up to 10 detectors may be used on each loop. A 6K8 resistor is connected across the alarm pair of each detector and a 4K7 resistor is connected in series with the loop at the furthest most point.

EOL wiring will give the best possible wiring security as it will not allow any bridging or cutting of the zone loop

Typical wiring of various detectors is given in Figs.25 to 29

Fig. 25 Typical 2 Wire EOL Configuration

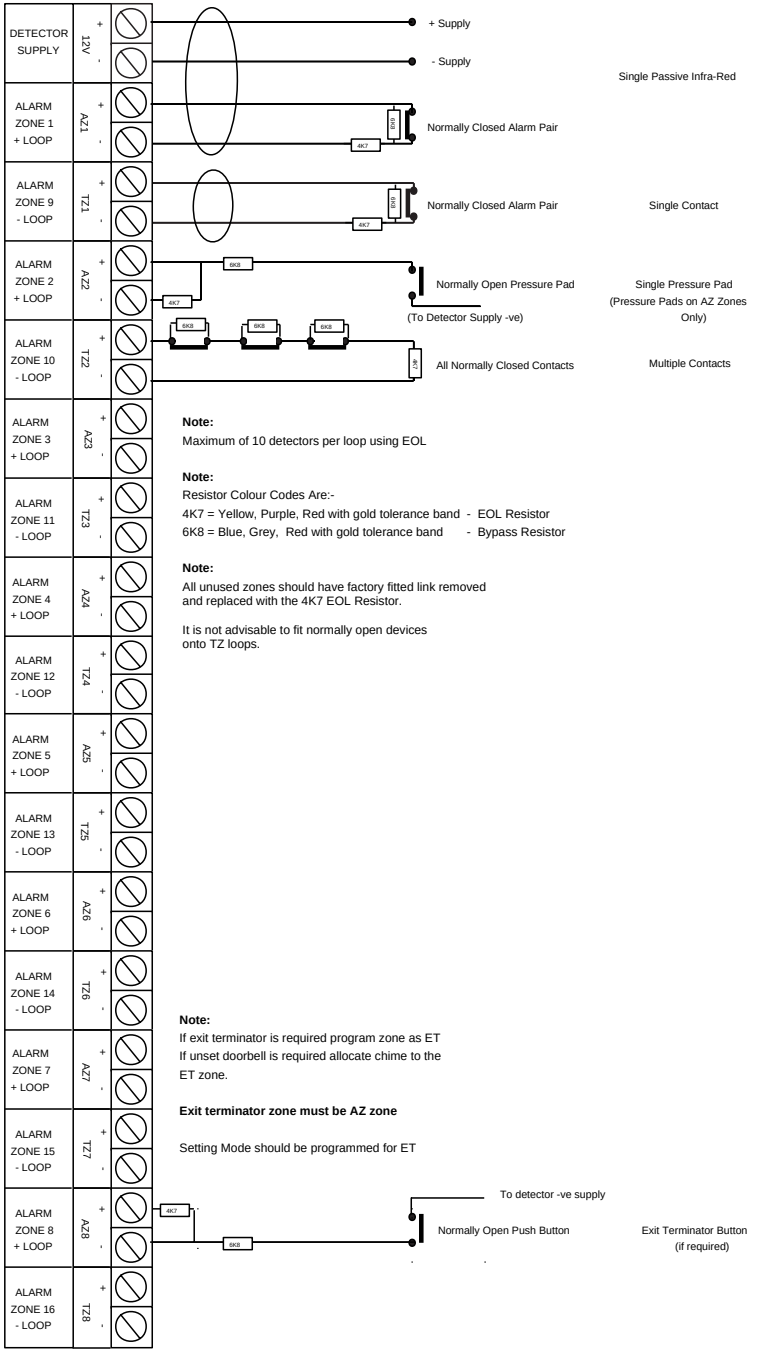

DETECTOR SUPPLY
12V + -
ALARM ZONE 1 + LOOP
AZ1 + -
ALARM ZONE 9 - LOOP
TZ1 + -
ALARM ZONE 2 + LOOP
AZ2 + -
ALARM ZONE 10 - LOOP
TZ2 + -
ALARM ZONE 3 + LOOP
AZ3 + -
ALARM ZONE 11 - LOOP
TZ3 + -
ALARM ZONE 4 + LOOP
AZ4 + -
ALARM ZONE 12 - LOOP
TZ4 + -
ALARM ZONE 5 + LOOP
AZ5 + -
ALARM ZONE 13 - LOOP
TZ5 + -
ALARM ZONE 6 + LOOP
AZ6 + -
ALARM ZONE 14 - LOOP
TZ6 + -
ALARM ZONE 7 + LOOP
AZ7 + -
ALARM ZONE 15 - LOOP
TZ7 + -
ALARM ZONE 8 + LOOP
AZ8 + -
ALARM ZONE 16 - LOOP
TZ8 + -
+ Supply
- Supply
Single Passive Infra-Red
Normally Closed Alarm Pair
4K7
Normally Closed Alarm Pair
Single Contact
6K8
Normally Open Pressure Pad
Single Pressure Pad (Pressure Pads on AZ Zones Only)
(To Detector Supply -ve)
All Normally Closed Contacts
Multiple Contacts
Note:
Maximum of 10 detectors per loop using EOL
Note:
Resistor Colour Codes Are:-
4K7 = Yellow, Purple, Red with gold tolerance band - EOL Resistor
6K8 = Blue, Grey, Red with gold tolerance band - Bypass Resistor
Note:
All unused zones should have factory fitted link removed and replaced with the 4K7 EOL Resistor.
It is not advisable to fit normally open devices onto TZ loops.
Note:
If exit terminator is required program zone as ET
If unset doorbell is required allocate chime to the ET zone.
Exit terminator zone must be AZ zone
Setting Mode should be programmed for ET
To detector -ve supply
Normally Open Push Button
Exit Terminator Button (if required)

Fig. 26

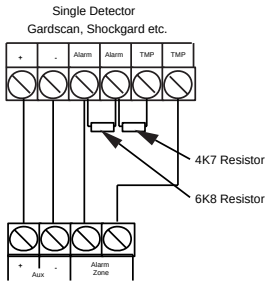


Fig. 27

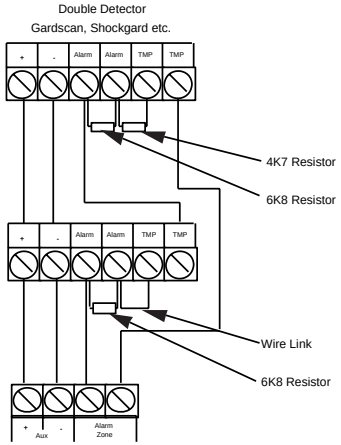


Fig. 28

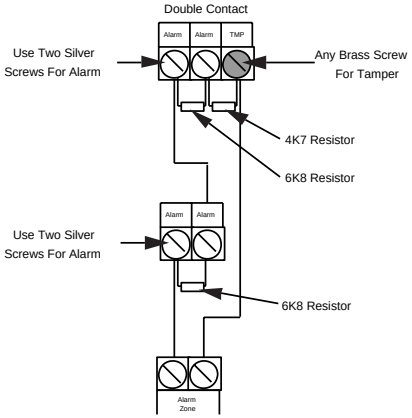
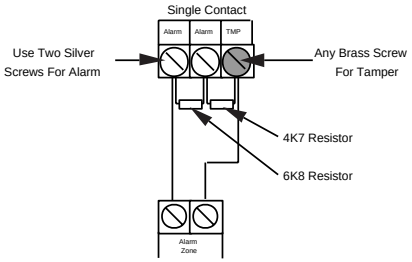


Fig. 29



816 840

Zone Expander Cards

Two types of zone expander cards are available, the Gardtec *816* Expander Card that may only be used on the *816* and the Gardtec *840* Expander that may be used on the *816/840.*

Up to eight zone expander cards may be fitted to the Gardtec *840* and two on the *816* control panel. If required one of these expander cards may be plugged directly onto the the main PCB, the other expander cards then being wired to the plug-on card as shown in Fig. 30. **Four cores are required for interconnection of the zone expanders. If Output Expanders are to be used (*840 only*) on the same leg as zone expanders an extra core will be required.**

Fig. 30a Gardtec *840* Expander Card Wiring 'Daisy Chain' Format

Expander1 (Plugged on)	**Expander2**	***840* Expander3**	***840* To Others**
12V	12V	12V	
0V	0V	0V	
SAD 1	SAD 1	SAD 1	
SCLK	SCLK	SCLK	

Fig. 30b Gardtec *816* Expander Card Wiring 'Daisy Chain' Format

Expander1 (Plugged on)	**Expander2**
12V	12V
0V	0V
SADIN	SADIN
SCLK	SCLK

The expander cards may also be wired back to the onboard expander card in 'Star' format (each expander card wired back individually).

Alternatively all the zone expander cards may be wired to the main PCB via an optional zone expander cable Part No. 01-094. If the *816* Expander Cards are being used two expander cables will be required. When using the zone expander cable the following colours should be used (see Figs 31a, 31b).

If Output expanders are used (*840* only) all SAD 2 connections should be interconnected. If the expanders are remote from the main PCB a second expander cable will be required to plug onto PCB EXP2 socket. The SAD2 connection on this second cable is the yellow core.

Fig. 31a Gardtec *840* Zone Expanders remote from panel (inc Cable Colours)

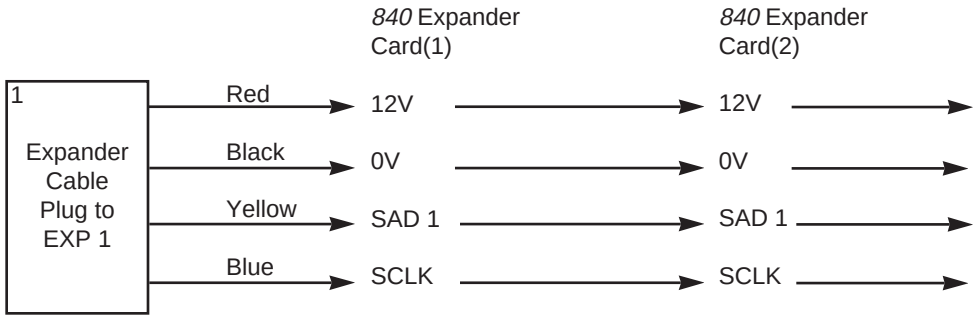
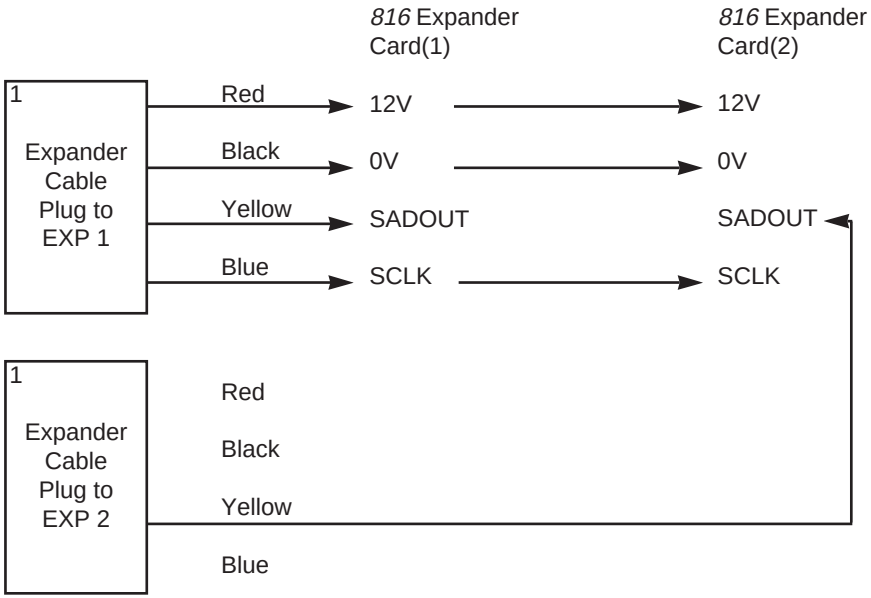


Fig. 31b Gardtec *816* Zone Expanders remote from panel (inc Cable Colours)
Note: Two Zone Expander Cables Required.



Note: In all above examples max cable run is 150 metres

Note:
The expander cable plug MUST be plugged in to the main PCB EXP socket with the red wire to pin 1.
If required expander cards may be mounted in a remote expander box Part No 02-066 These expander boxes are ideal housings when the expander cards are to be mounted away from the control panel.

Zone Expander Card Ident & Zone Allocation

816

Only two cards may be fitted to the *816.* If *840* cards are used only ident 1&2 should be used.

The panel and each individual card may be programmed as four wire, two wire or two wire EOL wiring modes. The zone allocation for the different modes is given below.

Zone Wiring No. of O/B Zones	No.of ZEX1 Zones	No. of ZEX2 Zones	Onboard Zones AZ1-AZ8 TZ1-TZ8	Zone Numbering ZEX 1 Zones AZ1-AZ4 TZ1-TZ4	ZEX 2 Zones Z1-AZ4 TZ1-TZ4
8	0	0	A1-A8 T1-T8		
16	0	0	A1-A8 A9-A16		
8	4	0	A1-A8 T1-T8	A9-A12 T9-T12	
16	4	0	A1-A8 A9-A16	A17-20 T17-20	
8	8	0	A1-A8 T1-T8	A9-A12 A13-A16	
16	8	0	A1-A8 A9-A16	A17-A20 A21-A24	
8	0	4	A1-A8 T1-T8		A9-A12 T9-T12
16	0	4	A1-A8 A9-A16		A17-A20 T17-T20
8	4	4	A1-A8 T1-T8	A9-A12 T9-T12	A13-A16 T13-T16
16	4	4	A1-A8 A9-16	A17-A20 T17-20	A21-A24 T21-T24
8	8	4	A1-A8 T1-T8	A9-A12 A13-A16	A17-A20 T17-T20
16	8	4	A1-A8 A9-A16	A17-A20 A21-A24	A25-A28 T25-T28
8	0	8	A1-A8 T1-T8		A9-A12 A13-A16
16	0	8	A1-A8 A9-A16		A17-A20 A21-A24
8	4	8	A1-A8 T1-T8	A9-A12 T9-T12	A13-A16 A17-A20
16	4	8	A1-A8 A9-A16	A17-A20 T17-T20	A21-A24 A25-A28
8	8	8	A1-A8 T1-T8	A9-A12 A13-A16	A17-A20 A21-A24
16	8	8	A1-A8 A9-A16	A17-A20 A21-A24	A25-A28 A29-A32

Zone Expander Card Ident & Zone Allocation

840

Each of the *840* expander cards has eight pairs of ident pins labelled EXP1 to EXP8. It is essential that the expander cards have the correct ident set. The jumper (supplied with the unit in position 1) should be moved to the desired ident before the system is powered up. No two zone expander cards should share the same ident.

As with the control panel zones 3 wiring methods are available for the expander cards. These are:-

4 Wire (giving 4 zones and 4 tamper loops per card)

2 Wire (giving 8 two wire zones per card)

2 Wire EOL (giving 8 two wire EOL zones per card)

Each expander may be programmed individually (through the control panel) for the wiring mode you wish to use. Any unused expander cards may be programmed to Off.

To simplify the counting of zones for the Gardtec *840* when expanders are used the panel should be viewed as unit 1, therefore the first expander becomes unit 2. All zones on unit 2 begin with a 2 (ie.zone 21 is on the second unit as it begins with a 2). The second expander is unit 3, all zones on unit 3 begin with a 3, and so on.....

Zones are allocated to each card with respect to the jumper position as follows:-

Expander Card 1 (Jumper in position 1 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 21	Zone 21	Zone 21
AZE2	Zone 22	Zone 22	Zone 22
AZE3	Zone 23	Zone 23	Zone 23
AZE4	Zone 24	Zone 24	Zone 24
TZE1	Tamper Zone 21	Zone 25	Zone 25
TZE2	Tamper Zone 22	Zone 26	Zone 26
TZE3	Tamper Zone 23	Zone 27	Zone 27
TZE4	Tamper Zone 24	Zone 28	Zone 28

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 2 (Jumper in position 2 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 31	Zone 31	Zone 31
AZE2	Zone 32	Zone 32	Zone 32
AZE3	Zone 33	Zone 33	Zone 33
AZE4	Zone 34	Zone 34	Zone 34
TZE1	Tamper Zone 31	Zone 35	Zone 35
TZE2	Tamper Zone 32	Zone 36	Zone 36
TZE3	Tamper Zone 33	Zone 37	Zone 37
TZE4	Tamper Zone 34	Zone 38	Zone 38

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 3 (Jumper in position 3 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 41	Zone 41	Zone 41
AZE2	Zone 42	Zone 42	Zone 42
AZE3	Zone 43	Zone 43	Zone 43
AZE4	Zone 44	Zone 44	Zone 44
TZE1	Tamper Zone 41	Zone 45	Zone 45
TZE2	Tamper Zone 42	Zone 46	Zone 46
TZE3	Tamper Zone 43	Zone 47	Zone 47
TZE4	Tamper Zone 44	Zone 48	Zone 48

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 4 (Jumper in position 4 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 51	Zone 51	Zone 51
AZE2	Zone 52	Zone 52	Zone 52
AZE3	Zone 53	Zone 53	Zone 53
AZE4	Zone 54	Zone 54	Zone 54
TZE1	Tamper Zone 51	Zone 55	Zone 55
TZE2	Tamper Zone 52	Zone 56	Zone 56
TZE3	Tamper Zone 53	Zone 57	Zone 57
TZE4	Tamper Zone 54	Zone 58	Zone 58

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 5 (Jumper in position 5 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 61	Zone 61	Zone 61
AZE2	Zone 62	Zone 62	Zone 62
AZE3	Zone 63	Zone 63	Zone 63
AZE4	Zone 64	Zone 64	Zone 64
TZE1	Tamper Zone 61	Zone 65	Zone 65
TZE2	Tamper Zone 62	Zone 66	Zone 66
TZE3	Tamper Zone 63	Zone 67	Zone 67
TZE4	Tamper Zone 64	Zone 68	Zone 68

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 6 (Jumper in position 6 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 71	Zone 71	Zone 71
AZE2	Zone 72	Zone 72	Zone 72
AZE3	Zone 73	Zone 73	Zone 73
AZE4	Zone 74	Zone 74	Zone 74
TZE1	Tamper Zone 71	Zone 75	Zone 75
TZE2	Tamper Zone 72	Zone 76	Zone 76
TZE3	Tamper Zone 73	Zone 77	Zone 77
TZE4	Tamper Zone 74	Zone 78	Zone 78

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 7 (Jumper in position 7 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 81	Zone 81	Zone 81
AZE2	Zone 82	Zone 82	Zone 82
AZE3	Zone 83	Zone 83	Zone 83
AZE4	Zone 84	Zone 84	Zone 84
TZE1	Tamper Zone 81	Zone 85	Zone 85
TZE2	Tamper Zone 82	Zone 86	Zone 86
TZE3	Tamper Zone 83	Zone 87	Zone 87
TZE4	Tamper Zone 84	Zone 88	Zone 88

Note: All AZE zones are +ve and all TZE zones are -ve.

Expander Card 8 (Jumper in position 8 *840* only)

	4 Wire Mode	2 Wire Mode	2 Wire EOL Mode
AZE1	Zone 91	Zone 91	Zone 91
AZE2	Zone 92	Zone 92	Zone 92
AZE3	Zone 93	Zone 93	Zone 93
AZE4	Zone 94	Zone 94	Zone 94
TZE1	Tamper Zone 91	Zone 95	Zone 95
TZE2	Tamper Zone 92	Zone 96	Zone 96
TZE3	Tamper Zone 93	Zone 97	Zone 97
TZE4	Tamper Zone 94	Zone 98	Zone 98

Note: All AZE zones are +ve and all TZE zones are -ve.

Note: Wiring configurations may differ on each zone expander card to suit your requirements. For example the control panel may be programmed as 4 Wire, Expander 1 as 2 Wire and Expander 3 as 2 Wire EOL etc.

Output Expander Modules (OPX)

840

Up to four output expander modules may be fitted to the Gardtec *840* control panel. These modules may, if required be wired in a chain of zone expanders or on a separate leg(s). **The zone expanders only require four cores for interconnection, if Output Expanders are used on the same leg five cores will be required (see page 38).**

Two types of module are available:-

Four open collector outputs. Max current sink 350mA each.
Four change over relays. Contact rating 1A 12V (resistive).

Each Output Expander (OPX) has a bank of four jumper switches labelled OPX1 to OPX4. The output allocation is as follows:-

Jumper Position	Output No (LCD)	Output No (LED)
OPX1	OP1	1
OPX1	OP2	2
OPX1	OP3	3
OPX1	OP4	4
OPX2	OP1	5
OPX2	OP2	6
OPX2	OP3	7
OPX2	OP4	8
OPX3	OP1	9
OPX3	OP2	10
OPX3	OP3	11
OPX3	OP4	12
OPX4	OP1	13
OPX4	OP2	14
OPX4	OP3	15
OPX4	OP4	16

Notes: **If required, two expander cards may be configured on the same ident to enable duplication of outputs.**

When using any devices that consume current, consideration MUST be given to the overall current available from the control panel.

Additional PSUs may be connected to the EXT PSU terminals on the transistorised version. If this option is used the PSU (JP6) jumper should be moved to the EXT position.

The invert link on the card will invert all the outputs of the card.

ID Expanders

840

The Gardtec *840* ID Expander card allows thirty detectors to be fitted on a four wire run using industry standard ID biscuits or ID compatible devices. Two ID expander cards can be fitted to the control panel. The control panel zones may still be programmed as 'Normal (4 wire)', 'Two Wire' or 'Two Wire EOL. When used to full capacity this allows the Gardtec *840* to have up to 16 control panel zones plus 60 ID zones.

Each ID expander may be wired back to the control panel with standard alarm four core cable.

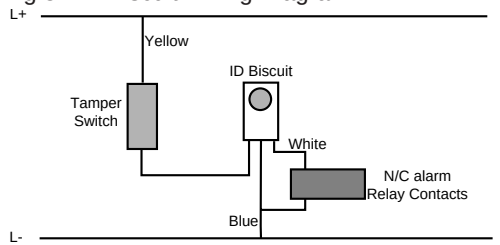
Wiring Configurations
Several configurations may be used for wiring the ID expanders to the control panel, these are:-

One ID Expander onboard the control panel PCB.
The expander is simply plugged across the molex pins marked as EXP1 and EXP2

One ID Expander remote from the control panel PCB.
This will require a Remote Expander cable (Part No. 01-094). This cable is plugged on to EXP1 with the Red wire to pin 1 and is wired to the ID Expander.

One ID Expander onboard the control panel PCB and one ID Expander remote from the PCB.
The first module is plugged across the molex pins on the control panel PCB marked as EXP1 and EXP2. The second module is then wired to the first.

Fig 32 ID Biscuit Wiring Diagram



Full wiring details are supplied with the ID Expander Board
Zone No's 21 - 50 are on ID card 1 (SAD1)

Zone No's 51 - 80 are on ID card 2 (SAD2)

Fig33 Detector Using Wired ID Biscuit

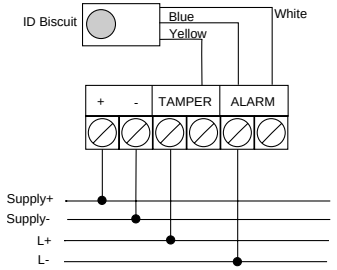
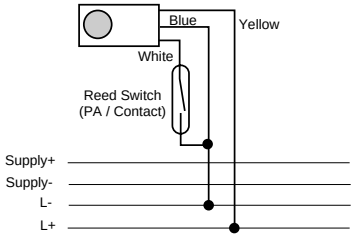


Fig34 Wired ID Biscuit for Contact/PA



Engineers RKP Connection

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To aid installation and programming an Engineers LCD RKP is available (part No. 02-069) that may be plugged directly onto the main PCB of the control panel. The engineers RKP may be configured as RKP 1 to 4 and will be supplied from the factory as RKP1. In this configuration it will work in tandem with RKP 1 on the system. It should be noted that if the system RKP1 is a keypad with twin seven segment LED display the engineers RKP will need to be reconfigured to an unused ident or one that is occupied by an LCD RKP.

The engineers RKP should be connected to the plug on the main PCB marked SK2 ENG RKP. The connector is 'keyed' and will only fit in one orientation, the use of force should be avoided to prevent damage to the plug/socket.

Printer Connection

816 840

The Gardtec *816/840* has an RS232 port that may be connected to a standard serial printer, to facilitate this two printer leads are available from Gardiner Technology.

Printer Cable No. 1	Part No 01-091	Connects from PCB direct to printer
Printer Cable No. 2A	Part No 01-092	Connects from PCB to chassis mounting DIN socket (to be mounted on panel case).
Printer Cable No. 2B	Part No 01-093	DIN plug to printer

The printer should be capable of being set to the following:-

Baud Rate	1200
Data Bits	8
Parity	None
Stop Bits	4
Carriage Return	None

Note: The printer should have its own power supply. Under no circumstances should the power for the printer be drawn from the control panel.

The printer may be used in one of three modes:-

1) For printing the Event Log (user or engineer function). Pressing 1 whilst viewing the Event Log will start the printer (refer to user manual for more details).

2) For printing the Program Review (engineer function). Pressing 1 whilst in the engineer option Program Review will start the printer.

3) For Real Time Printing. When Real Time Printing is programmed to ON each event that is written to the log will also be sent to the printer.

   This option needs to be set ON from within the engineer programming mode (option 96) and may be overridden by the user by using the online/offline function on the printer.

5 AREAS & ZONES

Area Options are only applicable to the Gardtec *840*

Understanding Areas

840

This section is intended to simplify the complicated subject of Areas and Area Codes. It is recommended that you read this section and understand it in its entirety before moving on to the programming section.

Typical zone programming to allow for the areas shown in Fig. 35 would be:-

Zone No.	Zone Type	Cover For	Area Allocation
1	Entry/Exit	Sales Office Door	Area 1
2	Access	Sales Office PIR	Area 1
3	Entry/Exit	Distribution Door	Area 2
4	Access	Distribution PIR	Area 2
5	Entry/Exit	Stores Door	Area 3
6	Access	Stores PIR	Area 3
7	Entry/Exit	Reception Door	Areas 1, 3
8	Access	Reception PIR	Areas 1, 3
9	Access	Corridor PIR	Areas 1, 3

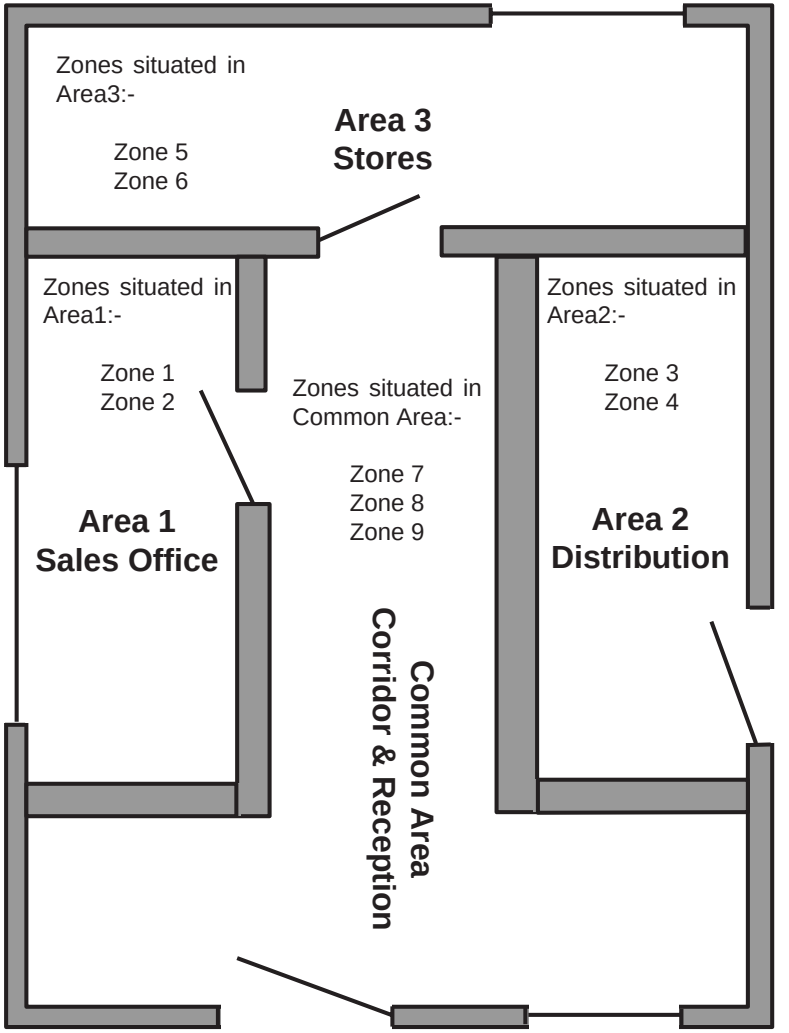
Because zones 7, 8 & 9 are allocated to more than one area they will **automatically be classed as a common area by the system**. The zones within the common area will only be set when all areas on the system that contain these common area zones are set.

As can be seen in Fig. 32 Area 2 (Distribution) does not use the common area and therefore does not need to have the common area zones allocated to it. Setting and unsetting Area 2 will have no effect on the common area.

In the example shown each area would have its own RKP with the possibility of a fourth in the reception as a master RKP.

Consideration should be given to the zone types that are going to be used bearing in mind that the common area may already have been unset by an area user code, therefore entry points to other areas would also need to be programmed as entry/exit.

Fig. 35 Typical Area Layout



The User codes that are allocated to the system shown in Fig. 35 are:-

User No.	User Type	Functions Available
1	Master	Set/Area Sets/Part Set/Unset Remove Zones Test Zones View Log Change Chime Change User Codes Change Time/Date
2	Area 1	Set/Part Set/Unset Area 1
3	Area 2	Set/Part Set/Unset Area 2
4	Area 3	Set/Part Set/Unset Area 3

Note: User codes are programmed via a master level code (factory default 5678).

Note: Part Sets will only be available if they have been programmed by the engineer.

Note: Reset will be available on the code level programmed by the engineer.

In the event that an area does not have a code allocated to it (e.g area 1 code has been deleted) any other area code setting the system will also set the area without a code. This is to ensure that no areas can be left unset unintentionally.

Care should be taken by the engineer when allocating part sets so they do not overlap into other areas.

The cleaner area acts in a different way to other areas. The cleaner area is set up within the Test/Part/Chime programming sequence. Cleaner zones will then be removed from the system when a Part/Area 0 is used. The different ways that a cleaner code operates are:-

With system unset	Cleaner code will fully set the system.
With full system set	Cleaner code will unset only the cleaner zones.
With system part set 0	Cleaner code will set the remainder of the system.
With any one or more areas set	Cleaner code will set the cleaner zones.

Zone Type Terminology

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Each zone has a default type that may be re-programmed. Below is an explanation of the terminology used for zone types.

12 Hour
Zone active when Control Panel is Set.

Access
Will allow to pass through on exit.
Will allow to pass through on entry only if E/E is opened first.

24 Hour
Internal Sounder if Unset.
Full alarm if Set.
Remains active in Engineer Programming Mode.

Entry/Exit (or E/E)
Zone used as last exit point (will terminate exit time if setting mode is set to E/E or Time+E/E).
Will start E/E time if opened when Control Panel is Set

Part E/E
As Access if Control Panel is Full Set
As Entry/Exit if Control Panel is Part Set

Panic
24Hour Personal Attack (or Panic Attack). Active if Control Panel is Set, Unset or in Engineer Programming Mode . May only be tested via Engineer code if programmed as testable.

Alert
Internal Sounder Only, Recorded to Log when Unset
Recorded to Log when SET

Fire
Will give Fire alarm when activated (pulsed sounders) with Control Panel Set or Unset.
Remains active in Engineer Programming Mode.

ET
Exit terminator. Used for final setting of the system. Exit Mode must be programmed for ET or Time + ET.

Monitor
Will write to the log once only in any one set or unset unless chime is allocated then all activations are written to the log.

6 PROGRAMMING

Gardtec *800 Series* Programming

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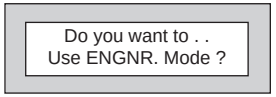
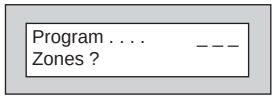
To program the Gardtec *800 Series* the engineer must first enter the programming routine by entering the engineer code (factory default 1234), LCD displays will then show:-



(LED displays will show ' En ' flashing),

Press YES to enter into the programming routine.

LCD displays will then show:-

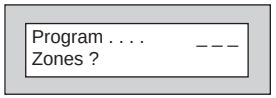


(LED displays will show a static ' E - ')

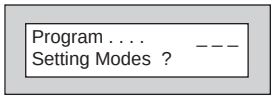
If you are using an LCD keypad two methods may be used to access the various programmable options.

Method 1
At any point during programming where three underscores are shown in the top right hand corner of the screen, you may enter the number of the option (given in the section Quick Programming Guide) you wish to program followed by YES. The program will then move direct to that option.

Method 2
The programming routine is structured with a series of headers for example:-



This is the header of the Zone programming routine, all zone programming options are accessed through this header. If you do not wish to program anything under the zone header pressing NO will move to the next header. For example pressing NO on the display above will move to the next header shown below:-



Details of the available headers and the options available under each header can be found in the section Gardtec *800 Series* Program Orders.

Programming Guide

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Due to the vast range of features available on the Gardtec *800 Series* control panel we strongly advise that an LCD keypad is used for programming.

Note: Throughout this section all reference to settings and defaults applicable to LED only displays are given within brackets e.g ( ).

Gardtec *800 Series* Programming Guide		
Option No/ Description	**Available Options**	**Default**
1 **Relay Mode**	**As Expander Mode (Option 83)** 816 840	Bell **(00)**
2 **Timer1 Turn On Time (Hrs)**	00 - 23 Hours 816 840	00 Hours **(00)**
3 **Timer1 Turn On Time (Min)**	00 - 59 Minutes 816 840	00 Minutes **(00)**
4 **Timer1 Turn Off Time (Hrs)**	00 - 23 Hours 816 840	00 Hours **(00)**
5 **Timer1 Turn Off Time (Min)**	00 - 59 Minutes 816 840	00 Minutes **(00)**
6 **PA Test**	800 (00) Testable (01) Non-Testable 816 840 Only applies to Test when accessed from Engineer Code	Non-Testable **(01)**
7 **PA Mode**	800 (00) Silent (01) Bells if Linefault (02) Bells Only (03) Bells Always 816 840	Bells Only **(02)**
8 **Chime Level**	800 0 - 9 816 840	5 **(5)**
9 **Entry/Exit Level**	800 0 - 9 816 840	**5** **(5)**
10 **Part Set Sounders**	800 (00) Always Audible (01) Silent If Part 1 (02) Silent If Part 2 (03) Silent If Part 3 (04) Always Silent 816 840	Always Audible **(00)**

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Option No/ Description	Available Options	Default
11 **Final Set Delay**	800 816 840 00 - 99 Seconds	03 Seconds **(03)**
12 **[A1] Full Set Exit Time**	800 816 840 00 - 99 Seconds	30 Seconds **(30)**
13 **[A1] Part1 Exit Time**	800 816 840 00 - 99 Seconds	30 Seconds **(30)**
14 **[A1] Part2 Exit Time**	800 816 840 00 - 99 Seconds	30 Seconds **(30)**
15 **[A1] Part3 Exit Time**	800 816 840 00 - 99 Seconds	30 Seconds **(30)**
16 **[A1] Full Set Mode**	800 816 840 (00) Exit Terminator Button (01) Entry/Exit Door (02) Time + Entry/Exit Door (03) Time	Time **(03)**
17 **[A1] Part1 Set Mode**	800 816 840 (00) Exit Terminator Button (01) Entry/Exit Door (02) Time + Entry/Exit Door (03) Time	Time **(03)**
18 **[A1] Part2 Set Mode**	800 816 840 (00) Exit Terminator Button (01) Entry/Exit Door (02) Time + Entry/Exit Door (03) Time	Time **(03)**
19 **[A1] Part3 Set Mode**	800 816 840 (00) Exit Terminator Button (01) Entry/Exit Door (02) Time + Entry/Exit Door (03) Time	Time **(03)**
20 **Alert 1 Mode**	800 816 840 (00) Fire (01) P.A (02) Alert (03) Off **Note: This feature must be enabled using option No.56**	Off **(03)**
21 **Alert 2 Mode**	800 816 840 (00) Fire (01) P.A (02) Alert (03) Off **Note: This feature must be enabled using option No.57**	Off **(03)**
22 **Keyswitch/ No of RKPs**	800 816 840 **(Left Digit LED)** (00) No Keyswitch (01) Biased Keyswitch (02) Normal Keyswitch (03) Locked **(Right Digit LED)** 1 - 4 Number of Keypads	No K/S 1 Keypad **(01)**

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Option No/ Description	Available Options	Default
23 **No. Of Bell Arms**	800 816 840 00 - 99 Activations **Note: If this option is programmed to 0 the Bell will not activate**	99 Activations **(99)**
24 **[Area1] Bell Ring Time**	800 816 840 00 - 99 Minutes **Note: If this option is programmed to 0 the Bell will not activate** **Note: Local environmental legislation should be checked**	20 Minutes **(20)**
25 **[Area1] Bell Delay Time**	800 816 840 00 - 99 Minutes **Note: Bell delay is overridden in the event of a linefault**	00 Minutes **(00)**
26 **Bell Type**	800 816 840 (00) SCB (01) SAB **Note: All Gardiner Technology Bell Boxes (including SCB types) should use the (01) SAB setting.**	SAB **(01)**
27 **Bell Tamper Ring**	800 816 840 (00) Off (01) On	On **(01)**
28 **Entry Time 1**	800 816 840 00 - 99 Seconds	30 Seconds **(30)**
29 **Entry Time 2**	800 816 840 00 - 99 Seconds	10 Seconds **(10)**
30 **Digi Start Delay**	800 816 840 00 - 99 Seconds **Note: Digi Start Delay applies to Part Set system**	00 Seconds **(00)**
31 **D1 Output Mode**	800 816 840 (00) Off (01) Zone Tamper (02) General Tamper (03) Alert (04) Fire (05) Part-Set (06) Open/Close (07) Panic (08) Alarm (09) Alarm B (10) Alarm Abort (11) 12V Power Fail (12) Watchdog (13) Mains Fail (14) Area 1 Alarm 840 (15) Area 2 Alarm (16) Area 3 Alarm (17) O/C Area 1 (18) O/C Area 2 (19) O/C Area 3 (20) O/C Cleaner (21) Alrm B Area1 (22) Alarm B Area2 (23) Alarm B Area 3 (24) Alrm Abort A1 (25) Alarm Abort A2 (26) Alarm Abort A3 (27) Panic Area 1 (28) Panic Area 2 (29) Panic Area 3 (30) Fire Area 1 (31) Fire Area 2 (32 Fire Area 3	Off **(00)**
32 **D2 Output Mode**	800 816 840 **As D1 Output Mode (Option 31)**	Off **(00)**
33 **Digi Output Start**	800 816 840 (00) Positive Start (01) Negative Start **Note: All Digi outputs (including D1 D2) are open collector outputs with 10 Ohm resistor in series, some Digis may require 6K8 pullups**	Negative Start **(01)**

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Option No/ Description	Available Options	Default
34 **Digi Type**	800 (00) None (01) Gardiner (02) Normal (03) Mod+FF 816 (00) None (01) Gardiner (02) Normal (03) Mod+FF (04) Mod+PID 840 (00) None (01) Gardiner (02) Normal (03) Point ID (04) Mod+PID (05) Mod+FF **Note: In all cases. Factory fitted link between 12V & Linefault terminals must be removed if Modem or ProDigi is being used or programmed.**	Normal **(02)**
35 **Key Beep Volume**	800 816 840 00 - 09	Activations **(05)**
36 **Multi Keypad**	(00) Off (01) On **Turn this option On when more than 4 keypads are used** 840	Off **(00)**
37 **D/Knock Time Window**	800 816 840 00 - 99 Minutes	01 Minutes **(01)**
38 **Engineer Code**	800 816 840 4 - 6 Digits	1234 **(1234)**
39 **Remote Reset**	800 816 840 (00) Remote Reset Off (01) Remote Reset On **Note: If Remote reset is used in conjunction with RedCare the Remote Reset line to the panel should be connected to Line Fault source terminal that has been selected via option 127**	Off **(00)**
40 **Linefault Sounders**	800 816 840 (00) 24Hr (01) Always Off (02) On If Set (03) On If Unset (04) FLT If Off (05) Beep If Off **Note: If Modem or ProDigi is used on shared line program Linefault Sounders to On If Set or Off.**	Always Off **(01)**
41 **Linefault In Exit**	800 816 840 (00) Detect In Exit (01)Ignore In Exit **Note: Detect In Exit will prevent setting of system if a Linefault is present. Ignore In Exit will only warn.**	Ignore In Exit **(01)**
42 **Linefault Log**	800 816 840 (00) Off (01) Limited (02) Exit/Set	Limited **(01)**
43 **Duress Mode**	800 816 840 (00) Off (01) On	On **(01)**
44 **Sensor Output Mode**	800 816 840 As Output Expander Modes (Option 83) **Note: The term Sensor Output refers to the DET RESET terminal.**	Pulse Off **(00)**

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Option No/ Description	Available Options	Default
45 **Internal Sounder Mode**	800 816 840 (00) Constant (01) Timed **Note: The term Internal Sounder refers to the Speaker Output**	Constant **(00)**
46 **[Area1] Alarm Reset**	800 816 840 (00) Any Code (01) Master Code (02) Anti-Code (03) Engineer Code (04) Engineer + Anti-Code (05) Main Code	Master Code **(01)**
47 **Tamper Reset**	800 816 840 (00) Any Code (01) Master Code (02) Anti-Code (03) Engineer Code (04) Engineer + Anti-Code (05) Main Code	Any Code **(00)**
48 **Backlight Mode**	800 816 840 (00) Off (01) On If Key pressed (02) On In E/E or if Keypressed (03) Always On	On in E/E or if Keypress **(02)**
49 **Zone Re-Arm**	800 816 840 (00) Off (01) On **Note: This option determines zone rearm after an alarm**	On **(01)**
50 **Onboard Zone Wiring**	800 816 840 (00) 8 (4 Wire) (01) 16 (EOL) (02) 16 (2 Wire) **Note: Refer to options 72, 75 & 76 for programming Zone Expanders & Zone Expander Wiring Modes for 816 & 840**	8 (4 Wire) **(00)**
51 **Zone Types, Zone Remove, Zone D/Knock** Enter zone No. followed by YES to gain access to zones. When finished use 0 to escape	800 816 840 **(Left Digit LED)** (0) 12Hr (1)Entry/Exit (2) Access (3) Panic (4) 24Hr (5) Fire (6) Alert (7) Exit Terminator Button (8) Part Entry/Exit (9) Monitor **(Right Digit LED)** (0) Removable (1) Non-Removable (2) Removable D/Knock (3) Non-Removable D/Knock (4) Off 840 (5) Normal Key Zone (6) Biased Key Zone **Note: Expansion wiring needs to be programmed first via option numbers 72 to 82** **Note: Refer to option 52 for zone attributes.** **Note: Refer to option 71 for Area and Chime attributes.**	Zone1 E/E Non-Rem Zone2 Access Non-Rem **Z1 (11) Z2 (21)** All Others 12Hr Non-Rem **(01)**
52 **Test/ Part Sets/ Cleaner**	800 816 840 **(Left Digit LED)** (0) Full Set (1) Part 1 Set (2) Part 2 Set (3) Part 3 Set (Parts 1&2) (4) Full Set + Cleaner (5) Part 1 Set + Cleaner (6) Part 2 Set + Cleaner (7) Part 3 Set (1&2) + Cleaner **(Right Digit LED)** (0) Off Test (1) On Test **Prompt for LED is n- Enter zone No YES then setting YES** **For LED Chime & FWT is via option 71** For LCD screens press NO to initial screen, then enter zone No followed by YES or NO to add or remove zone in Test or Part screens.	Off Test **(00)**

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Option No/ Description	Available Options	Default
53 **Service Timer**	800 816 840 (00) Off (01) On **This option should be used in conjunction with option 54**	Off **(00)**
54 **No. Weeks to Service**	800 816 840 00 - 99 Weeks **This option should be used in conjunction with option 53**	00 Weeks **(00)**
55 **Zone Log Limit**	800 816 840 (00) Off (01) On	On **(01)**
56 **Enable Alert 1 Keys 1&3**	800 816 840 (00) Off (01) On **Note: Use option 20 to select mode of Alert 1 Keys**	Off **(00)**
57 **Enable Alert 2 Keys 7&9**	800 816 840 (00) Off (01) On **Note: Use option 21 to select mode of Alert 1 Keys**	Off **(00)**
58 **Digi Channel 1 Mode**	800 816 840 **As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.**	Off **(00)**
59 **Digi Channel 4 Mode**	800 816 840 **As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.**	**(00)** Off
60 **Digi Channel 5 Mode**	800 816 840 **As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.**	Off **(00)**
61 **Digi Channel 6 Mode**	800 816 840 **As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.**	Off **(00)**
62 **Digi Channel 7 Mode**	800 816 840 **As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.**	Off **(00)**
63 **Digi Channel 8 Mode**	800 816 840 **As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.**	Off **(00)**
64 **Comms in Part Alrm/ Restore/ Abort**	800 816 840 **(Left Digit LED)** (0) Restore Off / Part Alarm Comms Off (1) Restore On / Part Alarm Comms Off (2) Restore Off / Part Alarm Comms On (3) Restore On / Part Alarm Comms On **(Right Digit LED) Abort Time** 0 - 9 x 20 Secs e.g 1=20 Secs 2=40 Secs.....	Restore Off Part Alrm Comms On Abort=60 Secs **(23)**

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Option No/ Description	Available Options	Default
65 **Digi Test Mode**	800 816 840 Once in test mode with LCD display will show the number of channels available press the corresponding number keys to activate and again to restore, (the number of channels shown is dependant on the type of communicator programmed e.g 4 for Normal Digi, 8 for Modem or ProDigi Once in test mode with LED display will show C- press the number keys corresponding to the desired channel to activate and again to restore. **Note: No access to test mode with an outstanding Alarm** **Note: With both types of display use the 0 key to escape test mode.**	
66 **Entry/Exit Zone in Part Set**	800 816 840 (00) Entry/Exit zones are Entry/Exit in Part Set (01) Entry/Exit zones are 12Hr in Part Set **This option determines how ALL E/E zones will act in Part-Set(s)**	Entry/Exit in Part Set **(00)**
67 **Engineer Code Lock-In**	800 816 840 (00) Unlocked (01) Locked **Note: Caution should be used with this option, once the engineer code has been locked-in it may only be unlocked/changed by use of the programmed code.** **DEFAULTING THE PANEL WILL NOT UNLOCK THE CODE.**	Unlocked **(00)**
68 **Strobe Setting Conformation**	800 816 840 (00) Off (01) Full Set Only (03) Any Set **Note: If this option is used the strobe will confirm the final setting of the system.**	Off **(00)**
69 **Auto Part Set**	800 816 840 (00) Off (01) On **Note: To use this option the setting mode must be programmed to Time + E/E. If the E/E door is opened/closed during the exit period the system will full set, if not the system will part set 1.**	Off **(00)**
70 **Part Set Bells**	800 816 840 (00) Off (01) On **Note: If part set bells are programmed to OFF no bell output will be given when the system is PART-SET.**	**(01)** On
71 **Area Programming Chime & Forced Walk Test Allocation** **For LED Only Displays**	**(Left Digit LED)*1** (0) Area 1 (1) Area 2 840 (2) Areas 1+2 (3) Area 3 (4) Areas 1+3 (5) Areas 2+3 (6) Areas 1+2+3 800 816 840 **(Right Digit LED)*2** (0) FWT Off - Chime Off (1) FWT Off - Chime On 840 (2) FWT On - Chime Off (3) FWT On - Chime On ***1Note: With LCD this option will appear the same as option 51** ***2Note: With LCD chime is via the Part/Test/Chime option 52.**	Area 1 FWT Off Chime Off **(00)**
72 **Zone Expansion Type**	816 (00) 816 ZEX (01) 840 ZEX **Note: 816 may use 816 or 840 Zone Expanders** 840 (00) 840 ZEX (01) ID **Note: 840 may use 840 or ID Zone Expanders**	816 ZEX **(00)** ZEX **(00)**
73 **Map ID Devices On SAD 1**	840 Press YES to Auto-Map Devices on SAD1 Press NO to Manually Map Devices on SAD1	

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Option No/ Description	Available Options	Default
74 **Map ID Devices On SAD 2**	Press YES to Auto-Map Devices on SAD2 Press NO to Manually Map Devices on SAD2 840	
75 **ZEX 1 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 816 840 **Note: This option determines the wiring method for ZEX 1. Each ZEX may use a different wiring method. If 840 Zex ensure correct ident is selected on the ZEX**	Off **(03)**
76 **ZEX 2 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 816 840 **Note: This option determines the wiring method for ZEX 2. Each ZEX may use a different wiring method. If 840 Zex ensure correct ident is selected on the ZEX**	Off **(03)**
77 **ZEX 3 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 840 **Note: This option determines the wiring method for ZEX 3. Each ZEX may use a different wiring method. Ensure correct ident is selected on the ZEX**	Off **(03)**
78 **ZEX 4 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 840 **Note: This option determines the wiring method for ZEX 4. Each ZEX may use a different wiring method. Ensure correct ident is selected on the ZEX**	Off **(03)**
79 **ZEX 5 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 840 **Note: This option determines the wiring method for ZEX 5. Each ZEX may use a different wiring method. Ensure correct ident is selected on the ZEX**	Off **(03)**
80 **ZEX 6 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 840 **Note: This option determines the wiring method for ZEX 6. Each ZEX may use a different wiring method. Ensure correct ident is selected on the ZEX**	Off **(03)**
81 **ZEX 7 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 840 **Note: This option determines the wiring method for ZEX 7. Each ZEX may use a different wiring method. Ensure correct ident is selected on the ZEX**	Off **(03)**
82 **ZEX 8 Wiring**	(00) 4 (4Wire) (01) 8 (EOL) (02) 8 (2 Wire) (03) Off 840 **Note: This option determines the wiring method for ZEX 8. Each ZEX may use a different wiring method. Ensure correct ident is selected on the ZEX**	Off **(03)**

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Option No/ Description	Available Options	Default
(800 & 816 options are referred from options 1 & 44) **83** **Output Expander Modes (840)** For LED Prompt is n- Enter output No. 1-16 then YES. To change setting press NO then enter new setting then YES For LCD Press NO Choose area option then use NO to scroll to required setting.	800 816 (00) Pulse-Off (01) Pulse-On (02 Set) (03) Alarm (04) After Alarm (05) Unset (06) Pulse-On-Set (07) Part-Set (08) Walk-Test (09) Mains Fail (10) Bell (11) Strobe (12) Latch (13) Any Digi (14) Int. Sndr (15) E/E (16) Timed On/Off (17) Alert (18) Alarm-B (19) Alarm Abort (20) Fire (21) Panic (22) Gen. Tamper (23) Zone Tamper (24) Power-Fail (25) Watchdog (26) Set Cleaner (27) O/C Cleaner (28) Any Closed (29) Off **A1** (00) Off (04) Latch A1 (12) Pulse Off A1 (16) Pulse On A1 (20) Set A1 (29) After Alarm A1 840 (37) Walktest A1 (74) Part Set A1 (41) Pulse @ Set A1 (55) Int Sounder A1 (44) E/E A1 (75) Bell A1 (76) Zone Alert A1 (77) Fire Zone A1 (78) Panic Zone A1 (33) O/C A1 (25) Alarm A1 (48) Alarm B A1 (52) Alarm Abort A1 (79) Zone Tamper A1 **A2** (00) Off (05) Latch A2 (13) Pulse Off A2 (17) Pulse On A2 (21) Set A2 (30) After Alarm A2 (38) Walktest A2 (80) Part Set A2 (42) Pulse @ Set A2 (56) Int Sounder A2 (45) E/E A2 (81) Bell A2 (82) Zone Alert A2 (83) Fire Zone A2 (84) Panic Zone A2 (32) O/C A2 (26) Alarm A2 (49) Alarm B A2 (53) Alarm Abort A2 (85) Zone Tamper A2 **A3** (00) Off (06) Latch A3 (14) Pulse Off A3 (18) Pulse On A3 (22) Set A3 (31) After Alarm A3 (39) Walktest A3 (86) Part Set A3 (43) Pulse @ Set A3 (57) Int Sounder A3 (46) E/E A3 (87) Bell A3 (88) Zone Alert A3 (89) Fire Zone A3 (90) Panic Zone A3 (35) O/C A3 (27) Alarm A3 (50) Alarm B A3 (54) Alarm Abort A3 (91) Zone Tamper A3 **All** (00) Off (60) Closed All (61) Alarm All (62) Alarm B All (63) Abort All **Any** (00) Off (09) Timed 1 (58) Timed 2 (59) Timed 3 (73) Closed Any (11) Pulse Off (15) Pulse On (28) After Alarm (36) Walktest (40) Pulse @ Set (07) Int Sounder (08) E/E (01) Bell (10) Alert (64) Any fire (65) Any Panic (24) Alarm (47) Alarm B (51) Alarm Abort (66) O/C Cleaner (23) Set Cleaner (67) General Tamper (68) Zone Tamper (69) Part Set (02) Strobe (03) Any Latch (19) Any Set (70) Power Fail (71) Watchdog (72) Mains Fail	**Various dependant on option**
84 **Timer 2 Turn On Time (Hrs)**	00 - 23 Hrs 840	00 Hours **(00)**

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Option No/ Description	Available Options	Default
85 **Timer 2 Turn On Time (Mins)**	00 - 59 Mins 840	00 Minutes **(00)**
86 **Timer 2 Turn Off Time (Hrs)**	00 - 23 Hours 840	00 Hours **(00)**
87 **Timer 2 Turn Off Time (Mins)**	00 - 59 Mins 840	00 Minutes **(00)**
88 **Timer 3 Turn On Time (Hrs)**	00 - 23 Hours 840	00 Hours **(00)**
89 **Timer 3 Turn On Time (Mins)**	00 - 59 Mins 840	00 Minutes **(00)**
90 **Timer 3 Turn Off Time (Hrs)**	00 - 23 Hours 840	00 Hours **(00)**
91 **Timer 3 Turn Of Time (Mins)**	00 - 59 Mins 840	00 Minutes **(00)**
92 **Select Status Display**	800 816 840 (00) Full (01) Set/Unset Only (02) None	Full **(00)**
93 **Custom Display (LCD Only)**	On Off 816 840 **Applicable to LCD Displays Only**	Off
94 **Custom Text (LCD Only)**	816 840 **Applicable to LCD Displays Only**	
95 **Zone Descriptors (LCD Only)**	816 840 **Applicable to LCD Displays Only**	ZONE xx
96 **Real Time Print**	(00) Off (01) On 816 840	Off **(00)**

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Option No/ Description	Available Options	Default
97 **View Event Log**	800 Whilst viewing NO key to view previous event YES key for next event 816 Whilst viewing with LCD press 5 to show user number instead of name 840 Whilst viewing with LED press 3 to view Time / Date 7 = Last event of previous day 9 = First event of next day 0 = Escape	
98 **Print Event Log**	816 840 Whilst printing 1 = printer On/Off	
99 **Print Programmed Settings**	816 840 Whilst printing 1 = printer On/Off	
101 **Area 2 Alarm Reset Mode**	(00) Any Code (01)Master Code (02)Anti-Code (03) Engineer Code (04) Engineer + Anti (05) Main 840	Master Code **(01)**
102 **Area 3 Alarm Reset Mode**	(00) Any Code (01)Master Code (02)Anti-Code (03) Engineer Code (04) Engineer + Anti (05) Main 840	Master Code **(01)**
103 **Digi Channel 2 Mode**	**As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.** 840	Panic **(07)**
104 **Digi Channel 3 Mode**	**As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.** 840	Alarm **(08)**
105 **Digi D3 (PA Term) Mode**	**As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.** 840 **Only available when ProDigi is not used. Now available with Modem.**	Panic **(07)**
106 **Digi D4 (12Hr Term) Mode**	**As Option 31 (D1 Output Mode)** **For LCD use YES key to move to desired channel and the NO key to change the setting for the selected channel.** 840 **Only available when ProDigi is not used. Now available with Modem.**	Alarm **(08)**
107 **Area 2 Bell Ring Time**	0 - 99 Minutes 840	20 Minutes **(20)**
108 **Area 3 Bell Ring Time**	0 - 99 Minutes 840	20 Minutes **(20)**
109 **Area 2 Bell Delay Time**	0 - 99 Minutes 840	00 Minutes **(00)**

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Option No/ Description	Available Options	Default
110 **Area 3 Bell Delay Time**	0 - 99 Minutes 840	00 Minutes **(00)**
111 **Area 2 Full Set Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
112 **Area 2 Part 1 Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
113 **Area 2 Part 2 Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
114 **Area 2 Part 3 Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
115 **Area 3 Full Set Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
116 **Area 3 Part 1 Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
117 **Area 3 Part 2 Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
118 **Area 3 Part 3 Exit Mode**	(00) Exit Terminator (01) E/E (02) Time + E/E (03) Time 840	Time **(03)**
119 **Area 2 Full Set Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
120 **Area 2 Part 1 Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
121 **Area 2 Part 2 Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**

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Option No/ Description	Available Options	Default
122 **Area 2 Part 3 Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
123 **Area 3 Full Set Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
124 **Area 3 Part 1 Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
125 **Area 3 Part 2 Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
126 **Area 3 Part 3 Exit Time**	0 - 99 seconds 840	30 Seconds **(30)**
127 **Remote Reset Source**	(00) LF (01) KSW 840	LF **(00)**
129 **FWT Bypass Time**	**LCD** 00 - 90 Minutes in ten minute increments **LED** (01) 10 Minutes (02) 20 Minutes (03) 30 Minutes (04) 40 Minutes (05) 50 Minutes (06) 60 Minutes (07) 70 Minutes (08) 80 Minutes (09) 90 Minutes 840	00 Minutes **(00)**
130 **FWT Mode**	(00) Off (01) All Sets (02) Full Set Only 840	Off **(00)**

Understanding Part/Test/Chime

800 816 840

Part Sets
Three Part Set modes are available on all models. These are Part1, Part 2 & Part3.

Part Set 1 may consist of a suite of zones that have been programmed as Part1 by the engineer.

Part Set 2 may consist of a suite of zones that have been programmed as Part2 by the engineer.

Part Set 3 combines all zones in Part1 & Part2 to form the third Part Set. This requires no additional programming by the engineer other than Part1 & Part2 programming.

Note: Zones programmed into a Part Set will be removed (omitted) from the system when that Part Set is used.

Test
Zones programmed as Test will not activate the system when it is set. Activations of test zones when the system is set will record to the log and will show 'Test Fail' when the system is unset.

Test should only be used for zones that will not be activated when the system is set. Do not use test on any E/E or Entry Route zones.

Note: After a zone has been put on test it will be automatically taken off test after 20 successful Set / Unset operations.

Chime
Any number of zones may be programmed as chime by the engineer. Chime is usually used as a low level warning when the system is unset that someone has entered a protected area.

Chime may be turned On and Off by the end user as required

If Exit Terminators are fitted to the system the Exit Terminator zone may be programmed for chime thus doubling as a door bell.

840

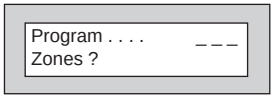
Walk (Forced Walk Test)
When FWT is used the zones programmed as Walk must be walk tested before the system will start to set. FWT Mode (option 130) must be programmed to 'All Sets' or 'Full Set Only' for FWT to operate. A FWT Bypass time is available via option 129. This allows up to 90 minutes between the system being unset and then set without having to walk test the system again.

Program Orders

800 816 840

As previously mentioned an alternative to entering option numbers with an LCD keypad is to scroll through the programmable options using the YES and NO keys.

To do this enter the engineer code followed by YES, the display will show:-



Pressing the NO key will move to the next header;

Pressing the YES key whilst viewing a header will enter into the options under that header;

Pressing 0 will escape back one step (except when a numeric entry is required).

Below is given a complete list of headers (**Shown in Bold Underline**), with the options available below it.

Note: Exact menu options will depend upon panel type

Headers & Options

Program Zones

Zone Types
Zone Descriptors
Zone Wiring
Zone Test/Part/Chime/Cleaner/Walk
Zone Double Knock/Arm/Log
Zone E/E Mode
  Walk On/Off (FWT)
  Walk Bypass Time (FWT)

Setting Modes

Setting For Full Sets
Setting For Part 1 Sets
Setting For Part 2 Sets
Setting For Part 3 Sets
Setting Delay
Setting Sounders
Setting Conformation
Auto Part Set

Headers & Options

Entry Times

Entry Time 1
Entry Time 2

Bells / Sounders

Bell Type/No Arms
Bell Delay
Bell & Sounder Ring
Bell Tamper Mode
Bell For Part Set

Keypad / Keyswitch

Keypad Alert 1 Keys
Keypad Alert 2 Keys
Number of Keypads
Multi Keypad Option
Keyswitch Type
Keypad Backlight Mode

Headers & Options

Digicom

Type or Test
Start Delay
Channels
Digicom Functions
(Digigard / ProDigi /Modem)

Line Fault Modes

Line Fault Sounders
Line Fault Mode in Exit
Line Fault Log Mode

Panic / Duress

PA Mode
Testable / Non-Testable
Duress On/Off

Relay / Timers

Onboard Relay Mode
Timer 1 On Time
Timer 1 Off Time
Timer 2 On Time
Timer 2 Off Time
Timer 3 On Time
Timer 3 Off Time

Reset Modes

Alarm 1 Reset
Alarm 2 Reset
Alarm 3 Reset
Tamper Reset
Remote Reset On/Off
Remote Reset Source
Alarm Restore (Immediate)
Abort Time

Headers & Options

Sounder Levels

Chime Level
Entry/Exit Level
Key Beep Level

Outputs

Sensor Output (Det Reset)

Expander 1 O/P1	1 For LED
Expander 1 O/P2	2 For LED
Expander 1 O/P3	3 For LED
Expander 1 O/P4	4 For LED
Expander 2 O/P1	5 For LED
Expander 2 O/P2	6 For LED
Expander 2 O/P3	7 For LED
Expander 2 O/P4	8 For LED
Expander 3 O/P1	9 For LED
Expander 3 O/P2	10 For LED
Expander 3 O/P3	11 For LED
Expander 3 O/P4	12 For LED
Expander 4 O/P1	13 For LED
Expander 4 O/P2	14 For LED
Expander 4 O/P3	15 For LED
Expander 4 O/P4	16 For LED

Engineer Code

Engineer Code
Engineer Code Locked/Unlocked

Service

Service Timer On/Off
Time To Next Service
Service Tel No.

Review

Review
Print Settings

Headers & Options

Custom Screens

Status Display
Custom Display
Custom Text

Headers & Options

Event Log

View Event Log
Print Event Log

7 SPECIFICATION & RECORDS

Gardtec 800 Series Specification

800 816 840

Unless otherwise stated

Power Input	230V a.c +/- 10% @ 50Hz
Max Loop Resistance	2K (not with E.O.L)
Loop Delay Time	300 milliseconds

FUSES

Bell	1A Quick Blow
R.K.P	500mA Quick Blow
Aux	1A Anti-surge
Gard	315mA Quick Blow
Mains	200mA Anti-surge

Low Voltage Output	13.8 Regulated
Battery Sizes	12V 1.2A, 2.0A, 3.0A, 7.0A
Construction	3mm Polycarbonate or 1.2mm Mild Steel
Complies With	BS 4737 Parts 1 & 2 CE tested
Conforms with	EMC Directive 89/336/EEC & LVD Directive 73/23/EEC
Number Of Zones (Standard)	8 (4 Wire), 16 (E.O.L or 2 Wire) — 800 816 840
Expandable To	16 (4 Wire), 32 (EOL or 2 Wire) — 816
	40 (4 Wire), 80 (E.O.L or 2 Wire) — 840
Expansion Type	Expander Cards with 4 (4 Wire) Zones or 8 (E.O.L or 2 Wire) Zones Per Card — 816 840
	or
	ID Expander Cards (Max2) 30 ID zones per Expander (Panel zones as normal) — 840

Number Of Keypads	4 Normal — 800 816 840
	or
	8 using Multi Option — 840
ACE compatible	Yes
Onboard Relay Rating	24V 1A S.P.C.O
Zone Descriptors	16 Characters (last 3 omitted with tamper)
Max No of Users	7 + Engineer — 800 816
Default Codes All	Eng 1234 User 5678
	47 + Engineer — 840
Code Length	4, 5 or 6 Digits — 800 816 840
User Names	9 Characters
Custom Screen	32 Characters — 816 840
Log Size	155 Event Log 31 Event Modem Log — 800
	324 Event Log 63 Event Modem Log — 816
	376 Event Log 256 Event Modem Log — 840
Time & Date	Log & Display
Non-Volatile Memory	Yes

Quiescent Currents

Control Panel	80mA @ 12V d.c
LED RKP	40mA @ 12V d.c
LCD RKP	30mA @ 12V d.c
Zone Expander Card	10mA @ 12V d.c (Max 8 Per System)
Output Expander Card	40mA @ 12V d.c (Max 4 Per System
Digigard Communicator	15mA @ 12V d.c
ProDigi Communicator	80mA @ 12V d.c
Gardtec *840* Modem	80mA @ 12V d.c
Gardtec Speech Dialler	80mA @ 12V d.c

System Settings Record

Zone No.	Descriptor	Area(s)	Loop Ohm	V @ Sensor	Part Info
Example	Living Room	1&2	14 AZ 4 TZ	13.2V	A1 P1
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
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31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					

Zone No.	Descriptor	Area(s)	Loop Ohm	V @ Sensor	Part Info
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
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80					
81					
82					
83					
84					
85					
86					
87					
88					
91					
92					

Zone No.	Descriptor	Area(s)	Loop Ohm	V @ Sensor	Part Info
93					
94					
95					
96					
97					
98					

Aux Current (mA)	Bell Current (mA)	RKP Current (mA)

Customer Name:-	**Contact Name:-**
Tel No:-	**Fax No:-**
Modem No:-	
Customer Address:-	
Other:-	

Service Due Dates	Completed Date	Signature

8 MISCELLANEOUS

Resetting to Factory Defaults

800 816 840

When resetting the Gardtec *800 Series* to factory defaults several levels of resetting are available, these are:-

a) Pressing **1, 9, YES, NO** during initial power up will revert the Master Code and Engineer Code (not locked engineer code) back to factory defaults.

b) Pressing **3, 7, YES, NO** during initial power up will revert all system settings back to defaults with the exception of the User Names and Zone Descriptors.

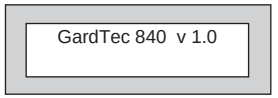
c) Pressing **4, 6, YES, NO** during initial power up will revert all system settings back to factory defaults.

d) Pressing **5, 5, YES, NO** during initial power up will revert all system settings to factory defaults and will also set the comms options up for Gardtec Remote. ie Modem On; No Return. **For commissioning systems for use with Gardtec Remote use this option.**

To effect a reset of the factory defaults:-

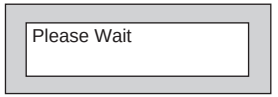
1) Remove all power from the system for at least ten seconds

2) Apply power to the control panel (mains power) the display will show:-
(Display will differ dependant on panel)

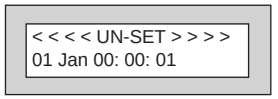


3) Whilst this display is showing (the first eight seconds) press the keys shown in a, b or c for the reset required, the display will show:-

This may show for several minutes.



4) The display will then show:-



Temporary access may be gained to the factory defaults by removing Lk1 on the main PCB, the link must be replaced before any programming is commenced, this option will have no effect if the engineer code is locked.

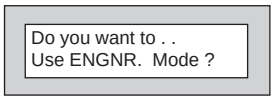
Should the EEprom or E^2 be changed on the main PCB we would recommend that a full reset is carried out (4, 6, YES, NO)

Engineer Reset After An Alarm

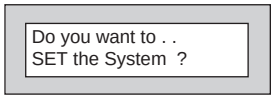
800 816 840

If a system is programmed for engineer reset it will be necessary for the engineer to attend the system. After the engineer has confirmed the integrity system the system should be reset as follows:-

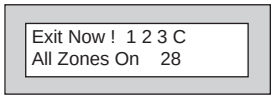
1) After the system has been Unset, enter the engineer code, the display will show:-



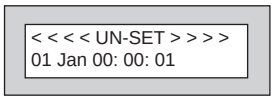
2) Press NO, the display will show:-



3) Press YES, the display will show:-



4) Enter the engineer code again to abort the setting, the display will show:-



5) The system is now Unset.

Appendix 1

Using Point ID

816 840

The ProDigi Communicator or Gardtec *800 Series* Modem from Gardiner Technology may, if required be used to allow Point ID communication with the Gardtec 840. When used in this mode the ProDigi/Modem will use the Ademco Point ID Protocol.

Point ID allows for the transmission of zone and detector types to be transmitted along with the alarm information. This qualifies as sequential verification as recommended by the 1995 ACPO policy.

To use Point ID the ProDigi/Modem should be connected to the Gardtec *840* via the serial lead that is supplied with it (this is shown in Fig 16 on page 25).

To use the communicator in Point ID mode and program the relevant functions, the control panel needs to be told that it is to use the ProDigi as a Point ID communicator. This is done via option 34 in the engineer options (Digicom Type), which should be changed to:-

Digicom Type.....
= Point ID or Mod+PID for the Modem

If using an LED type keypad to select Point ID:-

With the display showing E- press 34 followed by YES

Then press NO 03 (or 04 for Modem) followed by YES

It should be noted that although you are able to turn on the Point ID function via an LED keypad you will not be able to program the Digicom functions unless you are working via an LCD keypad. This allows for a pre-programmed ProDigi to be fitted onto an existing system with LED only keypads.

When using the ProDigi or Modem with the Gardtec *800 Series* control panel you will be able to use the ProDigi as a Point ID communicator or fast format communicator. It is not possible to use both formats at the same time.

New Log Events

816 840

Two new log events have been added with the implementation of Point ID these are:-

Alarm Abort
The LCD display will show "Alarm Abort" along with the time and date whilst the LED will show " AA "

Test Call
The LCD display will show "Test Call Sent" along with the time and date whilst the LED display will show " tC "

Access to programming the Point ID event actions is gained through the "Program Channels " options. After D1 & D2 and the polarity options have been programmed the following new options will be presented for programming.

Note: All these options are defaulted to off and should be turned on as required.

Set	Alrm	Unset	PA
24Hr	E/E	12Hr	Bat
Tamp	AC	LF	Alert
Fire	W/D	Duress	
Zone Remove	Alrm-Restore		
AC-Restore	LF-Restore		
After-Alarm	Abort-Call		

If the After Alarm option is turned on Point ID reports for all options are sent regardless of whether they are turned on or off following the first alarm event. This will continue until an Set/Unset event takes place. Note: Alrm=On must be programmed for this option to work.

Note: Options that are turned on will send messages regardless of alarm status.

Note: Power-Fail refers to Aux Fuse fail and will reported as Lo-Batt to the central station.

Note: Part-Sets will be reported as Armed Stay to the central station

Note: Output Module tampers will be reported as Expansion Module Tamper to the central station.

Engineer Code Entered
New Log Event of Engineer Code Entered has been added to all models.

800 816 840

Digi Functions Programming With Point ID

800 816 840

All normal Digi functions should be programmed as usual with the exception of the following items that have no function with Point ID protocol.

O/C Channel Select

Restore Report Channel Select

Input Mapping and Polarity

580 Re-mapping

Tone Security Option

800 816 840

The option of Tone Security has been added to the ProDigi. This option is only applicable when the ProDigi is being used in Point ID mode. When the option is set to 'Tone Security = High' a tone test will occur after any command is used (e.g Set, Unset, Code Entry). This is in addition to the Tone Test using the Tone Test Time option.

GARDINER TECHNOLOGY

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